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VOLUME XVII NUMBER 3

STUDIES OF AMERICAN PLANTS—VIII

BY

PAUL C. STANDLEY
CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF AMERICAN PLANTS—VIII

PAUL C. STANDLEY

Rosaceae are most numerous among the plants described as new on the following pages. Nearly all of them are from the Amazonian collections made by Mr. B. A. Krukoff, whose whole series of this economically important family was forwarded recently to the writer for study by the New York Botanical Garden.

Conspicuous among the Rubiaceae are several new species of Brazil, discovered during examination of the rich collections of the Museu Goeldi of Pará, sent on loan during the summer of 1937 to Field Museum. These collections, obtained chiefly by Ducke and Huber, illustrate many of the rarer Rubiaceae of Amazonian Brazil, and notes regarding some such species appear upon the following pages.

The other new species described here have been detected mostly in collections from diverse sources, forwarded for determination. There are recorded a number of additions to the ligneous flora of southern Mexico, based upon the collection obtained in early 1937 for Field Museum on the Isthmus of Tehuantepec by Mr. Llewelyn Williams.

COMMELINACEAE

Tradescantia chihuahuensis Standl., sp. nov.—Herba ut videtur erecta vel adscendens gracilis ramosa, caule ubique pilis longis laxis sordidis patentibus vel adscendentibus piloso, internodiis superioribus 2.5–3.5 cm. longis; folia numerosa adscendentia, vagina 1–1.5 cm. longa pallida plus minusve inflata dense longipilosa; lamina anguste oblonga vel lineari-oblonga 8–12.5 cm. longa 2–2.5 cm. lata longe anguste acuminata, foliis inferioribus apice tantum acutiuscula, basi paullo angustata, manifeste multinervia, utrinque sat dense pilis longis laxis patentibus pilosa; flores umbellati, umbellis ex axillis supremis nascentibus vulgo compositis 5–8 cm. longe pedunculatis, bracteis primariis anguste linearibus viridibus 1–2.5 cm. longis vix ultra 1 mm. latis pilosis, umbellulis 6–12 graciliter 1.5–3 cm. longe pedunculatis, pedunculis glabris vel sparsissime pilosis, umbellulis plerumque 3–5-floris, bracteis parvis inconspicuis, pedicellis ca. 1 cm. longis glabris gracillimis; sepala 4 mm. longa ovalia cymbiformia apice obtusa hyalina carinata, carina fere aliformi viridi, densiuscule laxe longipilosa; petala alba vel

caerulescentia venosa ca. 8 mm. longa glabra; capsula subglobosa sessilis 3.5 mm. alta breviter pilosa; semina 6 forma irregularia sed plus minusve globosa ca. 1.2 mm. diam. griseo-nigra grosse tuberculata.—Mexico: Guasaremos, Río Mayo, Chihuahua, shaded canyon bottom, infrequent, August 10, 1936, *Howard Scott Gentry 2365* (type in Herb. Field Mus.).

Closely related to *T. collina* Brandeg., described from San Luis Potosí, but that lacks the abundant pubescence of *T. chihuahuensis*, also the conspicuous bracts subtending the base of the inflorescence. The following recent collections of *T. collina*, from the State of Tamaulipas, are in the Herbarium of Field Museum: Jaumave, sierra near San Lucas, *Von Rozynski 506*. Cerro de Los Armadillos, Sierra de San Carlos, *H. H. Bartlett 10193*.

Tradescantia semisomna Standl., sp. nov.—Herba ut videtur simplex et erecta vel decumbens, e fascicula radicium carnosarum incrassatarum nascens, caule sat dense foliato gracili vel crassiusculo dense pilis brevibus sordidis patentibus pilosulo, internodiis supremis vaginis fere occultis; folia magna, vaginis 1–1.5 cm. longis inflatis densiuscule breviter pilosis vel glabratis cilatis; lamina liguliformis 11–19 cm. longa 2.5–4 cm. lata longiuscule attenuato-acuminata, foliis infimis apice obtusis supra pilis brevibus albidis basi bulbosis versus margines densius pilosula, subtus pilis similibus sed longioribus densius pilosa; flores in vaginis foliorum superiorum dense fasciculati numerosi vix e vaginis exserti, pedicellis gracilibus glabris ad 1 cm. longis; sepala pallida et fere hyalina oblonga obtusa 7–9 mm. longa carinata sparse breviter pilosa vel glabrata, apice puberula.—Mexico: San Bernardo, Río Mayo, Sonora, on cliff, August 31, 1935, *Howard Scott Gentry 1658* (type in Herb. Field Mus.)· Río Bonito, Chihuahua, August 25, 1936, *Harde LeSueur 1085*.

"Flowers pale blue, closed in the afternoon."

LILIACEAE

Anthericum crinitum Standl., sp. nov.—Radices numerosae fasciculatae carnoso-incrassatae; folia omnia radicalia linearia 5.5–7.5 cm. longa medio 6–7 mm. lata utrinque longe anguste attenuata tenuiter multinervia ubique sat dense pilis longiusculis crassiusculis pallidis patentibus hirsuta; scapus simplex rigidus erectus crassiusculus 18–35 cm. altus ut folia hirsutus, prope medium vel superius bractea 1 scariosa 1–1.5 cm. longa adpressa onustus, floribus paucis vel numerosis racemum plus minusve interruptum usque 17 cm. longum efformantibus, pedicellis crassiusculis rigidis vix ad 3 mm.

longis, bracteis parvis ovatis vel lanceolatis scariosis ciliatis; perianthium glabrum luteum, segmentis ca. 12 mm. longis medio trinerviis; filamenta gracillima glabra 4 mm. longa, antheris omnino liberis; capsula sessilis glabra oblonga 1 cm. longa 5 mm. lata viridis subacute trigona, apice emarginata.—Guatemala: Alameda, June 15, 1937, *J. R. Johnston 714* (type in Herb. Field Mus.).

Recognizable at once by the copious pubescence of coarse, rather lax and long, spreading hairs investing the scape and leaves. The plant was growing with another, distributed under the same number, that I take to be *Echeandia parviflora* Baker, a glabrous plant in which the anthers are coherent to form a tube or column.

IRIDACEAE

Sisyrinchium Johnstonii Standl., sp. nov.—Radices fasciculatae numerosae carnoso-incrassatae; fibrae foliorum vetustorum basi plantae persistentes; folia omnia basalia linearia 7.5–8.5 cm. longa 2.5 mm. lata apicem versus longiattenuata laete viridia rigidiuscula multinervia erecta; scapi simplices pauci erecti foliis paullo breviores usque 6 cm. longi ancipites sed vix compressi laeves; spatha 1, valva exterior 3.5–5 cm. longa longiattenuata viridis, interiores ca. 2 cm. longae paullo latiores virides, marginibus interdum pallidis vel purpurascentibus subhyalinis; flores 1–2 subexserti longipedicellati; ovarium oblongum glabrum fere 4 mm. longum; perianthium ut videtur coeruleum (bene evolutum non visum) 4 mm. longum et ultra.—Guatemala: Crater of Volcán de Agua, July 22, 1937, *J. R. Johnston 805* (type in Herb. Field Mus.).

The only other Central American species with simple scapes is *S. tinctorium* HBK., a plant with fibrous roots, and not at all closely related to this one.

AMARYLLIDACEAE

Hymenocallis sonorensis Standl., sp. nov.—Bulbus (perfectus non visus) ca. 7 cm. longus atque 5 cm. latus longicollis; folia basi vaginantia ca. 6 linearia 18–30 cm. longa et ultra medio 10–12 mm. lata apicem obtusum versus longe sensim attenuata, basin versus quoque longiattenuata glabra multinervia, marginibus laevibus; scapus ca. 30 cm. longus gracilis, floribus 4 arcte sessilibus, spathae valvis albidis angustis usque 4.5 cm. longis; ovarium ovoideum attenuatum et subrostratum fere 2 cm. longum; perianthii tubus gracillimus ca. 10 cm. longus parum ultra 1 mm. crassus, laciniis anguste linearibus 6.5–7.5 cm. longis 1.5 mm. latis; corona fere 2 cm. longa; filamenta perianthii segmentis paullo breviora, antheris

linearibus 1.5 cm. longis; stylus gracillimus perianthio paullo longior. —Mexico: Alamos, Río Fuerte, Sonora, in valley, July 1, 1936, *Howard Scott Gentry 2267* (type in Herb. Field Mus.).

"Colonial; flowers white. One of the first plants to produce flowers with the summer rains."

PIPERACEAE

Peperomia chicbulana Trelease, sp. nov.—Herba majuscula repenti-pendens, caule 2–3 mm. crasso primum laxe subvilloso; folia alterna lanceolata protracto-acuta, basi acuta, inferiora elliptico-ovata acuminata, basi rotundata, 9–11 cm. longa atque 2.5–4 cm. lata, vel 10 cm. longa atque 6 cm. lata, submultiplinervia, subtus in juventute aliquanto substellato-villosa, in sicco tenuia sed opaca, petiolo 10–20 mm. longo sparse subvilloso; spicae sympodiales 1(ad 3?) scapum brevem bibracteatum terminantes, vix 100 mm. longae atque 2 mm. crassae, pedunculo vix 10 mm. longo sparse piloso; bracteae rotundo-peltatae; baccae ellipsoideo-oblongae granulosae oblique scutellatae, stigmate centrali.—Guatemala: On a tree trunk in high, mesophytic forest of Monte Chicbul, near La Libertad, Dept. Petén, April 29, 1933, *C. L. Lundell 3099* (type in herb. Univ. Michigan).

Peperomia petenensis Trelease, sp. nov.—Herba majuscula glabra, caule 2–3 mm. crasso; folia alterna elliptico-ovata subacuta vel obtusa et emarginata, basi acuta, 7 cm. longa atque 4 cm. lata, 9 cm. longa atque 6 cm. lata, vel 11 cm. longa atque 7.5 cm. lata, e medio inferiore pinnatinervia, in sicco opaca coriacea anguste revoluta, petiolo 1.5–2 cm. longo; spicae 1 vel 2 scapum terminalem ca. 3 cm. longum terminantes, 60–130 mm. longae 2–3 mm. crassae, pedunculo 15–20 mm. longo; bracteae rotundo-peltatae; baccae elliptoideae, rostro gracili, stigmate ad basin rostri anteriore.—Guatemala: In forest on a hill near La Libertad, Dept. Petén, March 28, 1933, *C. L. Lundell 2129* (type in herb. Univ. Michigan).

Piper andresense Trelease, sp, nov.—Frutex, internodiis floriferis gracilibus breviusculis subpersistente crispo-pubescentibus; folia ovata subacuminata, basi cordata vel superiora tantum rotundata, 7–10 cm. longa 4–6.5 cm. lata, 7-nervia vel majora 9-nervia, supra sparse molliter pubescentia, subtus densius pubescentia, petiolo 10–20 mm. longo crispo-pubescente exalato; spicae 40 mm. longae 2 mm. crassae densiflorae, pedunculo 10 mm. longo molliter pubescente; bracteae cucullatae ciliatae.—Guatemala: In

the inhabited clearing of San Andrés, Lake Petén, Dept. Petén, May 3, 1933, *C. L. Lundell 3203* (type in herb. Univ. Illinois).

Piper andresense Trelease, var. **subcalvescens** Trelease, var. nov.—Forma glabrescens.—Guatemala: In the inhabited clearing of Yaxha, Dept. Petén, March 23, 1933, *C. L. Lundell 2011* (type in herb. Univ. Illinois).

Piper colaphitolerans Trelease, sp. nov.—Frutex glaber, internodiis superioribus brevibus gracilibus; folia lanceolata 8–9 cm. longa 2.5–3 cm. lata, vel inferiora subelliptica atque 4 cm. lata, anguste acuminata, basi cuneata et solemniter inaequilaterali-unguiculata, 3-nervia, in sicco tenuiter papyracea, petiolo vix 5 mm. longo; spicae 30 mm. longae 2 mm. crassae densiflorae, pedunculo 10 mm. longo; bracteae subcucullatae.—Guatemala: In the *ramonal* at Ixlu, Lake Petén, Dept. Petén, June 15, 1933, *C. L. Lundell 3827* (type in herb. Univ. Illinois).

Piper curvatipes Trelease, sp. nov.—Frutex solemniter nodosus glaber, internodiis granulosis brevibus primo gracilibus; folia lanceolata acuminata, basi angustata obtusa, altero latere breviore, 11 cm. longa 3.5 cm. lata, e medio inferiore pinnatinervia, nervis 4+3, revoluta coriacea, petiolo 5+2 mm. longo; spicae 40 mm. longae 3–4 mm. crassae, pedunculo vix 10 mm. longo curvo; bracteae rotundo-subpeltatae; stigmata 3 sessilia.—Guatemala: On a wet bank at Nictún, Lake Petén, Dept. Petén, May 4, 1933, *C. L. Lundell 3122* (type in herb. Univ. Illinois).

Piper discolor Trelease, sp. nov.—Frutex, internodiis superioribus breviusculis gracilibus praesertim infra nodos plus minusve hirsutis; folia elliptica vel oblanceolata anguste acuminata, basi inaequilaterali subacuta, 16–18 cm. longa 5.5–7.5 cm. lata, e medio inferiore vel parte paullo altiore pinnatinervia, nervis ca. 6+7, lucida, supra obscure viridia et glabra, subtus pallidiora, nervis pilis sursum curvis subvillosa, petiolo ca. 10+2 mm. longo dorso hirsuto; spicae visae juveniles breves breviter pedunculatae; bracteae magnae pallidae fimbriatae.—Guatemala: In flat-land forest near La Libertad, Dept. Petén, April 7, 1933, *C. L. Lundell 2565* (type in herb. Univ. Illinois). Also *No. 4886* from the same locality.

Piper emancipationis Trelease, sp. nov.—Frutex vel suffrutex nodosus, internodiis primo brevibus gracilibus persistente griseo-velutinis; folia elliptico-ovata subabrupte acuminata, basi rotundata altero latere breviore, 10 cm. longa atque 5 cm. lata vel saepius

17–22 cm. longa atque 9–11 cm. lata, e medio inferiore vel e parte paullo altiore pinnatinervia, nervis ca. 5+6, subtus adpresso-pilosa, in sicco firmo-papyracea lucida, petiolo 5+3 mm. longo vel in foliis inferioribus reductis 15 mm. longo ubique vaginante transiente piloso; spicae visae juveniles parvae breviter pedunculatae; bracteae magnae pallidae triangulari-subpeltatae fimbriatae.—Guatemala: Flat-land forest near La Libertad, Dept. Petén, June 7, 1933, *C. L. Lundell 3658* (type in herb. Univ. Illinois).

Piper emancipationis Trelease, var. **longum** Trelease, var. nov.—Folia magis elongato-elliptica, ad 24 cm. longa atque 10 cm. lata.—Guatemala: Limestone valley forest near La Libertad, Dept. Petén, April 27, 1933, *C. L. Lundell 3052* (type in herb. Univ. Illinois).

Maya name *pooczuyaax*.

Piper instabilipes Trelease, sp. nov.—Frutex nodosus glaber, internodiis floriferis brevibus gracillimis; folia lanceolato-ovata anguste acuminata, superiora basi acuta, petiolo exalato, inferiora basi rotundata, petiolo alato, 10–14 cm. longa 4–6 cm. lata, e medio inferiore submultiplinervia, nervis 4×2, costa superne nervos teneros arcuatos paucos emittente, petiolo 10–15 mm. longo; spicae 80 mm. longae 2 mm. crassae, pedunculo 5 mm. longo; bracteae rotundo-subpeltatae; stigmata 3 sessilia.—Guatemala: High, upland forest near Santa Teresa, Subín River, Dept. Petén, April 14, 1933, *C. L. Lundell 2776* (type in herb. Univ. Illinois).

Piper Lundellianum Trelease, sp. nov.—Frutex gracillimus, ramis fuscis transiente velutinis; folia rotundo-ovata subabrupte acuminata, basi subacuta vel saepius brevissime truncato-cordata, aliquanto unguiculata, 9–12 cm. longa 5–10 cm. lata 7-nervia aliquanto venosa viridia essentialiter glabra, petiolo 5–10 mm. longo velutino; spicae 45 mm. longae 2 mm. crassae densiflorae, pedunculo 5 mm. longo velutino; bracteae cucullatae ciliatae.—Guatemala: In the village of La Libertad, Dept. Petén, May 31, 1933, *C. L. Lundell 3524* (type in herb. Univ. Illinois).

Piper nitidulilaminum Trelease, sp. nov.—Frutex, internodiis floriferis breviusculis gracilibus subvillosis sed partibus infra nodos exceptis glabrescentibus; folia lanceolato-elliptica acuminata, basi acuta latere altero aliquanto breviore, ca. 15 cm. longa atque 6 cm. lata, e medio inferiore pinnatinervia nervis 5–6×2, in sicco tenuiter papyracea, supra lucida, nervis subtus aliquanto breviter pubescentibus, petiolo ca. 8+2 mm. longo breviter villoso; spicae juveniles 60 mm. longae 3 mm. crassae apiculatae, pedunculo 5 mm. longo gla-

brato; bracteae rotundo- vel crescentico-subpeltatae pallidae longiciliatae.—Guatemala: In secondary bush at Remate, Lake Petén, Dept. Petén, March 25, 1933, *C. L. Lundell 2077* (type in herb Univ. Michigan).

Piper plumbeicolor Trelease, sp. nov.—Frutex, internodiis floriferis brevibus gracilibus lucidis subtomentosis; folia elliptico-subovata acute acuminata, basi rotundata altero latere aliquanto breviore, 15 cm. longa 8 cm. lata, lucida, supra obscure viridia rugescentia, subtus plumbea, praesertim ad nervos crispo-pubescentia, petiolo ca. 8+2 mm. longo piloso; spicae juveniles 20 mm. longae 2 mm. crassae cuspidatae, pedunculo brevissimo; bracteae rotundo-subpeltatae fimbriatae.—Guatemala: In marginal forest near La Libertad, Dept. Petén, April 7, 1933, *C. L. Lundell 2554* (type in herb. Univ. Illinois).

Piper quadratilimbum Trelease, sp. nov.—Frutex altus, internodiis superioribus breviusculis gracilibus dense subretrorse pallido-pilosis; folia elliptico-subrhombea acuminata, basi angustata inaequilateraliter obtusa, 14–16 cm. longa 7–9 cm. lata, e medio inferiore pinnatinervia, nervis 6×2, supra minute pubescentia sed cito granuloso-subscabrida, subtus dense pallido-pubescentia, petiolo 7+3–10+5 mm. longo subvilloso; spicae ca. 70 mm. longae atque 3 mm. crassae, pedunculo 10 mm. longo pubescente; bracteae triangulari-subpeltatae pilosae; baccae triquetrae truncatae; stigmata 3 sessilia.—Guatemala: In high upland forest near El Paso, Dept. Petén, April 14, 1933, *C. L. Lundell 1488* (type in herb. Univ. Michigan).

Piper rematense Trelease, sp. nov.—Frutex, internodiis floriferis subgracilibus brevibus striatis ad nodos pilosulis; folia elliptica vel subrhombea acuminata, basi acuta interdum obscure unguiculata, 9–11 cm. longa 4.5–6.5 cm. lata 5-nervia, nervis subtus sparse pilosis, petiolo 5–10 mm. longo subvilloso; spicae 35–40 mm. longae 2–3 mm. crassae, pedunculo 5 mm. longo villoso; bracteae subspathulatae pilosae; ovarium oblongum, stigmatibus 3 erectis.—Guatemala: In an inhabited clearing, Remate, Lake Petén, Dept. Petén, Guatemala, March 25, 1933, *C. L. Lundell 2087* (type in herb. Univ. Michigan).

Piper simulhabitans Trelease, sp. nov.—Frutex 2-metralis, ramis et petiolis (? atque pagina inferiore laminae) primo floccosis; folia ovata acuminata, basi obtusa aliquanto revoluto-cordulata, 7.5–12 cm. longa 4.5–8 cm. lata 5–7-nervia, petiolo 5–15 mm. longo;

spicae 50 mm. longae 3 mm. crassae, pedunculo 5 mm. longo; bracteae subcucullatae pilosae.—Guatemala: In secondary forest near Remate, Lake Petén, Dept. Petén, March 25, 1933, *C. L. Lundell 2073* (type in herb. Univ. Michigan).

Piper tikalense Trelease, sp. nov.—Frutex 2–3-metralis, internodiis floriferis brevibus gracillimis hispidis vel hirsutis; folia ovata vel lanceolato-ovata protracto-acuminata, basi inaequaliter rotundata, 10–13 cm. longa 3.5–5 cm. lata, e medio inferiore pinnatinervia, nervis 4–5×2, supra granuloso-scabra, subtus ad nervos hirsuta vel subvillosa, plus minusve rugulosa, petiolo 10 mm. longo hirsuto; spicae 45–50 mm. longae 3 mm. crassae, pedunculo 3 mm. longo hispido; bracteae rotundato-subpeltatae albo-ciliatae.—Guatemala: In forest at Tikal, Dept. Petén, April 12–15, 1931, *H. H. Bartlett 12595* (type in herb. Univ. Illinois).

Piper yalochanum Trelease, sp. nov.—Frutex 2–3-metralis, internodiis floriferis brevibus gracilibus scabro-hispidis vel hirsutis; folia lanceolata subcaudato-acuminata, basi inaequilaterali latere longiore rotundata, 14 cm. longa 2.5–4 cm. lata, e tertio infimo pinnatinervia, nervis impressis 4–5×2, aliquanto rugosa, supra granulosa, subtus ad nervos patenti-pubescentia, petiolo 5 mm. longo hirsuto; spicae 70 mm. longae 3 mm. crassae, pedunculo vix 5 mm. longo hirsuto; bracteae rotundo-subpeltatae ciliatae.—Guatemala: In ramón forest along the Dos Arroyos-Yaloch Trail, Dept. Petén, May 2, 1931, *H. H. Bartlett 12849* (type in herb. Univ. Illinois).

Piper yaxhanum Trelease, sp. nov.—Frutex 2–3-metralis, ramis nigrescentibus crispo-pubescentibus; folia ovata acuminata, basi sensim vel subito acuta, 7-nervia, 8–12 cm. longa 4–8 cm. lata, ad nervos pubescentia et interdum subtus quoque inter nervos pubescentia, petiolo 5–20 mm. longo crispo-pubescente; spicae 40–50 mm. longae 2 mm. crassae, pedunculo 8–10 mm. longo.—Guatemala: In forest shade along the Yaxha-Remate road, Dept. Petén, June 16, 1933, *C. L. Lundell 3826* (type in herb. Univ. Illinois).

ULMACEAE

Ampelocera Hottlei Standl. Trop. Woods 51: 11. 1937. *Celtis Hottlei* Standl. op. cit. 20: 20. 1929.—Mexico: Ubero, Oaxaca, 30–90 meters, June, 1937, *L. Williams 9497*. Vernacular name Cautivo. A tree 13–21 meters high, the crown rounded or spreading; trunk 35–60 cm. in diameter, unbranched for 7 meters, often

with 5 narrow buttresses; bark grayish brown, fairly smooth. Said to be known also by the name Frijolillo. The genus is new for Mexico.

Ulmus LeSueurii Standl., sp. nov.—Ramuli graciles teretes griseo-brunnescentes lenticellis paucis albidis conspersi, novellis dense pilis laxis albidis adscendentibus vel subadpressis pilosis, internodiis brevibus; stipulae deciduae conspicuae brunneae striatae lanceolato-oblongae acutae plerumque 5–7 mm. longae; folia parva brevissime petiolata firma, petiolo ad 4 mm. longo dense patenti-piloso; lamina oblongo-elliptica 3.5–5.5 cm. longa 1.7–2.5 cm. lata acuta vel subacuminata, basi anguste rotundata, basi ipsa subcordata vel interdum truncata, in toto margine subdupliciter arcte crenato-serrata, serraturis subpatentibus, id est non incurvis, subulato-mucronatis, supra in sicco laete viridis ubique pilis brevibus et longis intermixtis subadpressis vel subpatentibus pilosa, tactu mollis, subtus paullo pallidior similiter pilosula, costa gracili elevata, nervis lateralibus utroque latere ca. 14 prominulis rectis in marginem desinentibus.—Mexico: Río Bonito, Chihuahua, August 24, 1936, *Harde LeSueur 595* (type in Herb. Field Mus.).

The type material, unfortunately, is in sterile and rather young condition, but the leaf characters are such that there is no doubt that the tree represents a tree distinct from other Mexican species of *Ulmus*. Evidently it is similar to *U. divaricata* C. H. Mueller, of Nuevo León, which has often long-acuminate leaves, very scabrous on the upper surface, with relatively appressed serrations.

MORACEAE

Brosimum terrabanum Pittier, Contr. U. S. Nat. Herb. 18: 68. *f. 76.* 1914.—This large tree, so common along the Atlantic coast of Central America, has not been recorded from Mexico, but the following collections made in 1937 are now available: Fortuño, Coatzacoalcos River, Veracruz, at 30–50 meters, *L. Williams 8950, 8583, 8387A;* Ubero, Oaxaca, 30–90 meters, *Williams 9179, 9394, 9489.* Local names Ojoche blanco, Ojoche de hoja menuda, Ojochillo. A tree of 18–27 meters, the trunk often 60 cm. or more in diameter, sometimes with narrow buttresses, the bark dark brown or almost black. The leaves are reported to be much eaten by cattle.

Piratinera panamensis Pittier, Contr. U. S. Nat. Herb. 20: 100. *pl. 7.* 1918.—This tree has been known to range from Panama to British Honduras, and may now be reported from Mexico: Ubero,

Oaxaca, 30–90 meters, May, 1937, *L. Williams 9391*. Vernacular name Asta. A tree 22 meters or more in height, the crown usually narrow; trunk straight or nearly so, not buttressed, the bark grayish brown, fairly smooth; fairly common on dry slopes in the forest. The genus is new for Mexico, but there is some question as to whether it is really separable from *Brosimum*.

LORANTHACEAE

Phoradendron aurantiacum Trelease, sp. nov.—*Aequitoriales-Undulatae*(?). Pseudodichotoma granulosa in sicco aureobrunnea, ramis breviusculis cataphyllis basalibus tantum onustis, androgyna(?); internodii breviusculi teretes 30–40 mm. longi 2–4 mm. crassi; cataphylla annulari-bifida albomarginata; folia lanceolata obtusissima 4–5 cm. longa 1.5–2 cm. lata solemniter opaca obscure pinnatinervia, basi vix 10 mm. longe acute contracta; spicae subsolitariae fere sessiles graciles, adultae 30 mm. longae, articulis ca. 10 brevibus, floribus 12 vel paucioribus in series 4 vel 4+2 dispositis, squamis magnis.—Guatemala: On a tree in Sabana Zis, Lake Petén, Dept. Petén, May 3, 1933, *C. L. Lundell 3191* (type in herb. Univ. Illinois).

Phoradendron franciscanum Trelease, sp. nov.—*Aequitoriales-Quadrangulares*. Aliquanto pseudodichotoma glabra paullo rugulosa vel granulosa, cataphyllis tantum basalibus, androgyna(?); internodii 40 mm. longi 2–3 mm. crassi acute quadrangulares superne aliquanto compressi; cataphylla fere distincta albomarginata; folia elliptico-oblanceolata obtusa 2.5–3 cm. longa 1 cm. lata cuneatim subsessilia crispata, obscurissime basinervia; spicae plerumque solitariae vix 30 mm. longae, articulis ca. 4 oblongis ca. 12-floris, floribus 4-seriatim dispositis, pedunculo 3 mm. longo; fructus ruber globosus 3 mm. diam.; sepala inflexa.—Guatemala: On a tree in Sabana San Francisco, near La Libertad, Dept. Petén, April 1, 1933, *C. L. Lundell 2398* (type in herb. Univ. Illinois). La Libertad, *Lundell 3834*.

Phoradendron libertadanum Trelease, sp. nov.—*Aequitoriales-Quadrangulares*. Copiose ramosa glabra, interdum obscure hinc inde granulosa, cataphyllis ramorum tantum basalibus, internodiis 30–60 mm. longis 2–6 mm. crassis acute quadrangularibus superne ancipitibus; par cataphyllorum 1 basale, cataphyllis patentibus pallido-marginatis; folia oblonga mucronato-acuta circiter 30 mm. longa atque 5 mm. lata, cuneatim 5 mm. longe subpetiolata, crispata, obscurissime basinervia; inflorescentia?—Guatemala: Growing on

Cochlospermum vitifolium in marginal forest, La Libertad, Dept. Petén, April 1, 1933, *C. L. Lundell 2401* (type in herb. Univ. Illinois). La Libertad, *Aguilar 12*.

Vernacular name Matapalo.

Phoradendron petenense Trelease, sp. nov.—*Aequitoriales-Quadrangulares.* Majuscula copiose ramosa glabra, plus minusve ruguloso-granulosa; androgyna(?); internodii modici 40–60 mm. longi 2–4 mm. crassi acute quadrangulares, superne aliquanto compressi; par cataphyllorum 1 basale, cataphyllis brevibus fere distinctis; folia elliptico-oblonga obtusa aliquanto mucronata 4–6 cm. longa 1–2 cm. lata, cuneatim subsessilia, subtenuia tenuiter basinervia; spicae plerumque solitariae longiusculae 40 mm. longae, articulis ca. 4 elongatis atque 4-seriatim 16-floris, pedunculo ca. 5 mm. longo; fructus ruber globosus laevis 4 mm. diam., sepalis arcte inflexis.—Guatemala: On *Curatella americana*, La Libertad, Dept. Petén, April 1, 1933, *C. L. Lundell 2400* (type in herb. Univ. Illinois).

Struthanthus guatemalensis Standl., sp. nov.—Frutex epiphyticus gracilis ramosus, ramis gracilibus subflexuosis subangulatis praesertim ad angulos dense ferrugineo-furfuraceis, internodiis brevibus vel elongatis; folia modica breviter petiolata subcoriacea fragilia, petiolo graciusculo 4–6 mm. longo anguste canaliculato glabro; lamina oblongo-ovata 4–5.5 cm. longa 2–2.5 cm. lata apice anguste rotundata, basi acuta vel obtusa, marginata, marginibus minute ferrugineo-furfuraceis, utrinque opaca, concolor, costa subtus prominente tenui furfuracea, lamina aliter glabra, nervis venisque utrinque prominulis teneris, nervis lateralibus utroque latere 4–5 angulo angusto adscendentibus; spicae axillares solitariae 1–1.5 cm. longae vix ultra 7 mm. longe pedunculatae, articulis ca. 5 bifloris, bracteis latissimis rotundatis patentibus, floribus solitariis sessilibus; fructus immaturus oblongus 3 mm. longus sparse minute tuberculatus.—Guatemala: Finca Mocá, 900 meters, April 5, 1931, *J. Bequaert 46* (type in Herb. Field Mus.).

ARISTOLOCHIACEAE

Aristolochia Cardenasii Standl., sp. nov.—Herba scandens vel prostrata, caulibus gracilibus striatis subsparse breviter hirsutis, internodiis breviusculis; folia modica longipetiolata membranacea, petiolo crassiusculo 4.5–7 cm. longo striato breviter hirsuto; lamina reniformis integra ca. 6 cm. longa atque 9 cm. lata apice latissime rotundata vel fere truncata, basi profunde cordata et breviter de-

currens, lobis basalibus latissime rotundatis, supra subsparse minute puberula, tactu laevis, subtus fere concolor dense pilis brevibus patentibus inferne incrassatis pilosa, basi 5-nervia; flores axillares solitarii ca. 1.5 cm. longe pedunculati, bractea ut videtur caduca; ovarium lineare dense pilosum; calyx extus dense pilis longis laxis patentibus pilosus, utriculo subgloboso 1.5 cm. longo, tubo deflexo arcuato 1.5 cm. longo vel ultra nervoso, labio orbiculari 3 cm. longo et aequilato apice obtuso vel subrotundato et cuspidato-mucronato, basi profunde anguste cordato, margine appendicibus filiformibus apice paullo incrassatis ca. 8 mm. longis dense ciliato.—Bolivia: Charagua, Chaco Region, 700 meters, climbing or repent on sandy, rather damp soil, April, 1934, *Martín Cárdenas 2618* (type in Herb. Field Mus.).

"Flowers purple and yellow."

Aristolochia Marshii Standl., sp. nov.—Herbacea volubilis, caule ut videtur simplici gracillimo sparse pilis brevibus laxis albidis piloso, internodiis elongatis; folia modica longipetiolata herbacea, petiolo gracili 1–3.5 cm. longo sparse piloso; lamina profunde fere ad basin triloba 6–9 cm. longa, basi profunde cordata, sinu lato aperto, lobo terminali anguste oblongo ad 1.5 cm. lato fere e basi ad apicem sensim attenuato, lobis lateralibus semiovatis obtusis multo brevioribus, lamina supra viridi sparse breviter pilosula, subtus paullo pallidiore ad nervos breviter pilosula et inter nervos minutissime puberula vel glabrata, basi 5-nervia; flores axillares solitarii ca. 1 cm. longe pedunculati, bractea lineari-lanceolata basi acuta fere 1 cm. longa; ovarium ca. 5 mm. longum lineari-oblongum dense patenti-pilosum; calyx extus subdense patenti-pilosus, utriculo obovoideo ca. 8 mm. longo, tubo subrecto fere 1 cm. longo 2 mm. vel paullo ultra lato, limbo recto complicato fere 3 cm. longo et basi 1 cm. lato longe anguste apicem obtusum versus attenuato, lobis basalibus brevissimis basi subauriculatis.—Mexico: Muzquiz, Coahuila, Spring of 1935, *Ernest G. Marsh 10* (type in Herb. Field Mus.). Probably conspecific is *C. H. & M. T. Mueller 311* from Diente Canyon, near Monterrey, Nuevo León, collected in July, 1933.

The plant is closely related to *A. brevipes* Benth., a very variable species, as generally interpreted, but it differs sufficiently from that in the large, deeply lobed leaves with narrow lobes, and in the narrow, not cordate bracts.

Aristolochia martiniana Standl., sp. nov.—Herbacea scandens ramosa, caulibus gracilibus glabris, internodiis valde elongatis; folia

modica longipetiolata membranacea, petiolo gracili glabro ca. 2 cm. longo; pseudostipulae subrotundatae deciduae ca. 8 mm. longae; lamina hastata ca. 7.5 cm. longa et basi 4.5 cm. lata, paulo infra medium subcontracta, longiacuminata, basi profunde late cordata, lobis posticis anguste rotundatis subretrorsis, in sicco fusca, glabra vel subtus prope basin obscure minute puberula, basi 5–7-nervia; flores axillares solitarii 5–6.5 cm. longe pedunculati, bractea caduca vel obsoleta; ovarium lineare ad 2 cm. longum vix 2 mm. latum glabrum; calyx glaber, utriculo ovali 2–3 cm. longo 1–2 cm. lato, tubo ex utriculo angulo recto divergente brevi crasso, labio ovali 7.5 cm. longo 4 cm. lato apice rotundato et 3 mm. longe mucronato, basi profunde cordato, lobis basalibus rotundatis.—Peru: Juanjuí, Alto Río Huallaga, Dept. San Martín, 400–800 meters, in forest clearing, December, 1935, *G. Klug 4168* (type in Herb. Field Mus.).

"Flowers wine-red and yellow."

Aristolochia quercetorum Standl., sp. nov.—Herba prostrata, caulibus ut videtur simplicibus gracilibus flexuosis dense patenti-pilosis, internodiis brevibus; folia inter minora breviter petiolata membranacea, petiolo crassiusculo 7–9 mm. longo hirtello; lamina oblongo-sagittata vel in foliis infimis interdum triangulari-sagittata 4–7.5 cm. longa 2–2.5 cm. lata apicem obtusum vel acutiusculum versus sensim angustata, basi profunde (ad 1.5 cm.) anguste cordata, lobis basalibus anguste rotundatis vel obtusis retrorsis, supra minute puberula et asperula vel glabrata, subtus paullo pallidior ad nervos hirtella et inter nervos scaberulo-puberula, basi 5-nervia; flores axillares solitarii ca. 4 mm. longe pedunculati, bractea late ovata viridi obtusa 2.5 mm. longa pilosa; ovarium 5 mm. longum anguste oblongum dense hirtellum; calyx extus dense hirtellus, utriculo ovoideo fere 1 cm. longo atque 7 mm. lato, tubo lato 4 mm. tantum longo, labio rotundato-ovato 1 cm. longo vel paullo ultra obtuso, basi utroque latere subauriculato, auriculis late rotundatis; capsula 1.5 cm. longa brevissime hirtella, valvulis 6–7 mm. latis.—Mexico: Guasaremos, Río Mayo, Chihuahua, in oak flat, September 26, 1935, *Howard Scott Gentry 1872* (type in Herb. Field Mus.).

Vernacular name Yerba del indio. A decoction of the roots is a local remedy for gas on the stomach and is employed as a wash for sores.

POLYGONACEAE

Coccoloba chacoensis Standl., sp. nov.—Frutex 2–3-metralis, ramulis flexuosis gracilibus teretibus griseobrunnes- centibus glabris, novellis minute puberulis, internodiis brevibus vel elongatis; ocreae

parvae puberulae caducae; folia parva petiolata subcoriacea, petiolo crassiusculo 4–8 mm. longo minute ciliolato; lamina late elliptica vel ovato-elliptica 2.5–5 cm. longa 1.5–3.2 cm. lata obtusa vel interdum apice anguste rotundata, basi rotundata et saepe breviter emarginata, glabra, supra opaca, costa nervisque prominentibus, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere ca. 7 angulo latiusculo adscendentibus prominulis teneris fere rectis justa marginem conjunctis, venulis obscure laxe reticulatis, lamina subtus ubique densiuscule fusco-puncticulata; flores sessiles spicati, spicis terminalibus 4.5–9 cm. longis breviter pedunculatis interruptis, floribus remotis ut rhachi glabris, ocreolis vix 1 mm. longis; perianthii segmenta rotundato-ovalia apice rotundata viridia 1.5 mm. longa fere ad basin distincta.—Bolivia: Cururenda, Chaco Region, 200 meters, in sandy loam, March, 1934, *Martín Cárdenas 2529* (type in Herb. Field Mus.).

"The leaves are like coca when chewed." The species is noteworthy for its conspicuously small leaves.

CHENOPODIACEAE

Halogeton sativus (L.) C. A. Mey.—Some time ago Prof. A. O. Garrett sent to the writer material of a Chenopodiaceous plant which offered considerable difficulty in determination. It was finally identified by Dr. Paul Aellen, authority upon this group, as *Halogeton sativus* (L.) C. A. Mey. (*Salsola sativa* L.), a species native in southern Spain and Algeria. The plant was collected in August, 1935, at Wells, Nevada, by Ben Stahmann. It was found along railroad tracks, where it is reported to be spreading rapidly. It will be interesting to learn whether this new addition to the United States flora thrives as well as *Bassia hyssopifolia* (Pall.) Kuntze, a related plant of somewhat similar appearance, which, if I remember correctly, also was found in the United States first in Nevada.

AMARANTHACEAE

Amaranthus Parodii Standl., sp. nov.—Herba annua erecta 18–30 cm. alta e basi ramosa, caulibus crassis teretibus vel obscure obtuse angulatis pallidis glabris vel superne sparsissime villosulis, internodiis brevibus; folia inter minora longissime petiolata herbacea, petiolo gracili 1.3–2.5 cm. longo glabro vel sparse villosulo; lamina ovato-rhombea in sicco interdum complicata 2–3.5 cm. longa 1.2–2 cm. lata apicem retusum et mucronatum versus angustata, basi cuneata vel obtusa et abrupte longe decurrens, glabra vel subtus

ad nervos sparse villosula, nervis lateralibus utroque latere ca. 6 angulo semirecto adscendentibus pallidis conspicuis; flores monoeci glomerulati, glomerulis magnis dense multifloris axillaribus et petiolis multo brevioribus, vel saepe spicam densam terminalem foliosam ca. 12 mm. crassam efformantibus; bracteae glabrae lucidae late ovatae sepalis femineis fere duplo breviores mucronatae; sepala femina spathulato-obovata 2 mm. longa prope medium contracta et longe in unguiculam angustam decurrentia, apice late rotundata vel subtruncata et breviter mucronata glabra erecta integra; utriculus sepalis paullo brevior apice tridentatus rugosus, ut videtur indehiscens; semen nigrum lucidum 1.2 mm. latum laeve.—Argentina: Amaicha, Prov. Tucumán, in maize fields, 2,300 meters, February 2, 1933, *L. R. Parodi 11040* (type in Herb. Field Mus.). Vera, Prov. Santa Fe, 60 meters, November 13, 1933, *Parodi 11277*.

Vernacular name Ataco.

Iresine Cardenasii Standl., sp. nov.—Frutex 2-metralis ramosus, ramis gracillimis teretibus densissime arcte albo-stellato-tomentosis, internodiis elongatis; folia modica breviter petio lata papyracea, petiolo crassiusculo 7–10 mm. longo; lamina oblongo-lanceolata vel anguste elliptico-oblonga 7–11 cm. longa 2–3.8 cm. lata apicem acutiusculum versus sensim attenuata, basi acuta vel acuminata, supra in sicco viridis opaca, primo laxe tomentosa, cito glabrata, costa nervisque manifestis sed non elevatis, subtus dense arcte albo-stellato-tomentosa, costa gracili elevata, nervis lateralibus utroque latere ca. 12 angulo lato adscendentibus subarcuatis prominentibus; flores dioeci, spiculis parvis numerosissimis laxe paniculatis, paniculis magnis foliosis usque 27 cm. latis; spiculae plerumque 5–8 mm. longe pedunculatae ca. 4 mm. latae ovoideae vel subglobosae; bracteae et bracteolae rotundato-ovatae hyalinae obtusae et apiculatae glabrae sepalis aequilongae; sepala floris feminei 1.5 mm. longa oblonga acutiuscula dense pilis longissimis albis pilosa.—Bolivia: Sailapata, Prov. Ayopaya, Dept. Cochabamba, 2,000 meters, dry, rocky places, October, 1935, *Martín Cárdenas 3210* (type in Herb. Field Mus.).

NYCTAGINACEAE

Mirabilis Muelleri Standl., sp. nov.—Herba ut videtur decumbens et laxa ramosa, ramis gracilibus subteretibus sparse vel superne dense puberulis, internodiis foliis longioribus; folia parva longipetiolata herbacea, petiolo gracili 7–13 mm. longo sparse puberulo vel glabro; lamina forma variabilis late deltoideo-ovata vel late rotundato-ovata, interdum latior quam longa, 1.5–3 cm. longa 1.3–2.3

cm. lata, versus apicem obtusum vel acutum angustata vel interdum apice late obtusa et apiculata, basi breviter cordata vel truncata, glabra, rhaphidibus brevibus solemniter notata, basi 3–5-nervia, costa utroque latere nervos 1–2 emittente; involucra axillaria et solitaria vel apice rami subcymosa, pedunculis ad 12 mm. longis gracillimis glanduloso-villosulis; involucrum triflorum viride ad anthesin 8 mm. longum late campanulatum dense breviter glanduloso-villosulum infra medium 5-lobum, lobis late ovatis acutiusculis; anthocarpium juvenile breviter pilosulum angulatum; perianthium 18 mm. longum vel ultra, tubo extus villosulo fauce ad 4 mm. lato sensim a basi ad faucem dilatato.—Mexico: La Mina, mountains near Monterrey, Nuevo León, July, 1933, *C. H. & M. T. Mueller 49* (type in Herb. Field Mus.).

Related to *M. longipes* Standl., described from Durango, which has acute or attenuate leaves deeply cordate at the base, and smaller involucres.

Torrubia asperula Standl., sp. nov.—Arbor; ramuli teretes fusco-ferruginei lenticellis paucis magnis elongatis notati, internodiis brevibus, novellis subdense ferrugineo-villosulis; folia plerumque ternata parva breviter petiolata subcoriacea, petiolo 5–8 mm. longo ferrugineo-villosulo; lamina elliptico-oblonga vel anguste elliptico-oblonga 5–7 cm. longa 1.8–2.5 cm. lata acuminata, basi acuta, supra in sicco lucida glabra, nervis venulisque prominulis, subtus brunnescens sublucida asperulo-puberula vel ad nervos ferrugineo-villosula, costa gracili elevata, nervis lateralibus utroque latere ca. 10 angulo fere recto divergentibus fere rectis irregularibus prope marginem arcuato-conjunctis, venis prominulis laxe reticulatis, margine vulgo recurvo; inflorescentiae numerosae laxe multiflorae 2.5–4 cm. longe graciliter pedunculatae 3–3.5 cm. longae et paullo latiores, basi vulgo trichotomae vel ramis interdum verticillatis gracillimis fere glabris, nodis plus minusve ferrugineo-villosulis, floribus cymosis vel subumbellatis, pedicellis ad 3.5 mm. longis, saepe fere nullis, bracteis minutis obscuris; perianthium masculum 4 mm. longum e basi faucem 2 mm. latum versus sensim dilatatum, sparse minutissime ferrugineo-puberulum vel glabrum, dentibus brevissimis obtusis; stamina breviter exserta.—Brazil: Parati, Santa Catharina, October 25, 1928, *F. C. Hoehne 23182* (type in Herb. Field Mus.).

Torrubia Hoehnei Standl., sp. nov.—Arbor magna; ramuli crassiusculi subteretes dense arcte ferrugineo-tomentosi, internodiis brevibus; folia majuscula opposita vel rarius ternata petiolata papy-

raceo-coriacea, petiolis inaequalibus 6–25 mm. longis ferrugineo-tomentosis; lamina ovato-oblonga vel elliptico-oblonga, rare elliptica vel subrotundata, vulgo 9–18 cm. longa atque 4.5–7 cm. lata, breviter acuminata vel acuta, basi interdum valde obliqua obtusa vel subrotundata, supra in sicco fusca sublucida vel fere opaca, primo sat dense ferrugineo-puberula serius glabrata, costa prominula, nervis manifestis sed vix elevatis, subtus fere concolor dense minute ferrugineo-tomentosa, costa gracili elevata, nervis lateralibus utroque latere ca. 11 prominulis angulo lato interdum fere recto abeuntibus subarcuatis, venulis inconspicuis laxe reticulatis; inflorescentiae cymoso-corymbosae erectae sublaxe multiflorae 2–5 cm. longe pedunculatae ca. 5 cm. latae, pedunculo crassiusculo dense ferrugineo-tomentoso, ramis basalibus crassiusculis subpatentibus dense ferrugineo-tomentosis, floribus plerumque sessilibus cymoso-congestis, bracteis parvis dense tomentosis; perianthium masculum 2.5–3 mm. longum late campanulatum basi acutum minute ferrugineo-tomentulosum truncatum et remote brevissime denticulatum; stamina ca. 7 perianthio plus quam duplo longiora; fructus immaturus oblongus 7 mm. longus 2.5–3 mm. latus apice contractus, primo sparse ferrugineo-tomentulosus cito glabratus.—Brazil: Iguape, São Paulo, September 21, 1929, *F. C. Hoehne 24825* (type in Herb. Field Mus.). Praia Grande, São Paulo, November 10, 1898, *Alb. Loefgren 12942* (*Herv. Com. Geogr. e Geol. de S. Paulo 4208*). Cubatão, S. Paulo, August 23, 1899, *Hoehne 23855*.

An apparently well marked species of this genus that is so amply represented in Brazil, noteworthy especially for the abundant, ferruginous pubescence found on almost all parts of the plant.

Torrubia Loefgrenii Standl., sp. nov.—Rami graciles teretes brunneo-ochracei lucidi glabri, internodiis elongatis; folia majuscula opposita sessilia amplectantia (ad summum vix 2 mm. longe petiolata) oblonga, elongato-oblonga vel lanceolato-oblonga 11–15.5 cm. longa 4–5.5 cm. lata acuta vel breviter acuminata, apice ipso obtuso vel subacuto, basi rotundata vel subcordata, papyracea, supra in sicco fuscescentia lucida, nervis venisque parum conspicuis vix prominulis, utrinque glabra, subtus lucida, costa gracili prominente, nervis lateralibus utroque latere ca. 15 angulo fere recto divergentibus rectis sed irregularibus; inflorescentia mascula axillaris graciliter 4–4.5 cm. longe pedunculata cymoso-paniculata pauciramosa ca. 3.5 cm. longa atque aequilata, ramis gracilibus angulo lato adscendentibus glabris vel ad nodos inconspicue ferrugineo-puberulis, bracteis minutis deciduis, floribus aggregatis sessilibus vel subsessilibus;

perianthium masculum 4 mm. longum sensim e basi ad faucem 2 mm. latum dilatatum glabrum, dentibus brevissimis obtusis; stamina breviter exserta.—Brazil: São Sebastião, São Paulo, July 26, 1895, *Alb. Loefgren* (*Herv. Com. Geogr. e Geol. de S. Paulo 3061*) (type in Herb. Field Mus.).

The outstanding character of the species is found in the sessile leaves.

CARYOPHYLLACEAE

Cerastium guatemalense Standl., sp. nov.—Herba ut videtur perennis 30 cm. alta et ultra basi decumbens, radicibus non visis, caulibus graciusculis sat dense pilis laxis longiusculis patentibus pallidis viscido-villosis, internodiis numerosis, inferioribus foliis brevioribus, supremis foliis multo longioribus; folia linearia 2–3.5 cm. longa prope basin 2–4 mm. latis apicem angustum versus sensim attenuata 1-nervia utrinque sat dense pilis longis laxis viscidis basi subbulbosis villosa; inflorescentia laxe aperte ramosa ca. 20 cm. longa, ramis gracilibus dense viscido-villosis, cymis laxe paucifloris, floribus nūtantibus, pedicellis gracilibus plerumque 1–3 cm. longis dense viscido-villosis; sepala 5–6 mm. longa oblongo-ovata acuminata viridia sat dense pilis longis laxis viscido-villosa, marginibus superne pallidis hyalinis; petala alba vix ultra 7 mm. longa; capsula subcurva 12–13 mm. longa medio 3.5 mm. lata hyalina 10-nervia, dentibus brevissimis; semina brunnea grosse tuberculata 1.2 mm. diam.—Guatemala: Volcán de Agua, presumably on the highest slopes toward the crater, July 22, 1937, *J. R. Johnston 816* (type in Herb. Field Mus.).

This is the first native species of *Cerastium*, so far as I know, to be recorded from Central America.

RANUNCULACEAE

Delphinium calcar-equitis Standl., sp. nov.—Perennis elata 60 cm. alta vel ultra, caule infra inflorescentiam simplici gracili tereti glabro versus basin purpureo tincto; folia basalia non visa, caulinis 2.5–9 cm. longe petiolatis, petiolo striato prope basin vaginato-dilatato et ciliato; lamina ambitu pentagona ca. 4.5 cm. longa atque 5.5 cm. lata fere ad basin tripartita, segmento terminali fere ad medium trilobo, lobis grosse 2–4-crenatis, crenaturis ovato-ovalibus apice constricto-apiculatis, apice purpurascente, segmentis lateralibus fere ad basin bilobis similiter crenatis, lamina basi profunde late cordata supra viridi sparse puberula et minute glandulosa, subtus glaucescente ad nervos venasque sparse pilosula; racemi

simplices vel pauciramosi ca. 11 cm. longi laxissime pauciflori, rhachi sparse incurvo-pilosula, bracteis linearibus usque 1 cm. longis; pedicelli gracillimi, inferiores usque 5 cm. longi incurvo-pilosuli, bracteolis 2 versus apicem insertis anguste linearibus ca. 5 mm. longis; sepala intense violacea rotundato-ovata ca. 1 cm. longa obtusa extus sparse incurvo-pilosula, calcare recto 2 cm. longo obtuso basi 5 mm. lato apicem versus sensim attenuato; petala superiora albida glabra apice caeruleo suffusa et breviter bidentata, inferiora intense violacea bifida albo-barbata.—Mexico: Memelichi, Río Mayo, Chihuahua, 2,250 meters, on pine slope, September 13, 1936, *Howard Scott Gentry 2700* (type in Herb. Field Mus.).

A handsome and showy plant, noteworthy for the lax, few-flowered racemes, large flowers, and long spurs. Local name Espuela de caballero.

Delphinium valens Standl., sp. nov.—Perennis erecta, caule fistuloso-incrassato inferne 1 cm. crasso simplici striato dense foliato ubique sed non conspicue pilis brevibus laxis subpatentibus pallidis non viscidis piloso, ca. 60 cm. alto; folia numerosa densa, basalia non visa, caulina 2.5–5 cm. longe petiolata, petiolo piloso basi subdilatato; lamina utrinque pilis albidis subsparsis incurvis pilosa fere ad basin 5-partita, segmentis angustis basi cuneato-angustatis plus minusve trilobis, lobis profunde laciniato-lobulatis vel laciniato-serratis, serraturis oblongis vel anguste triangularibus apice obtusis et incrassatis vel subtruncatis; racemus simplex dense foliatus, foliis caulinis paullo minoribus, supremis subsessilibus, floribus subcongestis, pedicellis 1–3 cm. longis rigidis subincurvis sat dense pilis gracillimis longiusculis patentibus viscido-pilosis, apice bibracteolatis; flores perfecti non visi, calcare crasso incurvo ca. 1 cm. longo, sepalis ciliatis et parce pilosis aequilongis; folliculi 3 glabri, immaturi 6 mm. longi in stylum 3 mm. longum sensim attenuati.—Mexico: Abundant in upper pine woods, peak of Cerro Potosí, Municipio de Galeana, Nuevo León, July 21, 1935, *C. H. Mueller 2264* (type in Herb. Field Mus.).

The flowers are described as dark purple, fading with age. They appear to be of the dark, brownish purple that characterizes some of the species of the southern Rocky Mountains. Among all Mexican representatives of the genus this may be recognized at once by the short and densely congested, very leafy inflorescence and stout, densely leafy stems.

Ranunculus centellifolius Standl., sp. nov.—Herba perennis; folia basalia longissime petiolata numerosa, petiolo usque 9 cm.

longo striato sparse pilis longissimis albis adscendentibus induto vel fere omnino glabro; lamina rotundo-reniformis ca. 2.5 cm. longa et fere aequilata apice late rotundata, basi profunde anguste cordata, ubique grosse crenata, crenaturis utroque latere ca. 7 apice rotundatis, supra glabra, subtus pilis paucis longis albis induta vel fere glabra; caules plures 2–3-flori erecti vel adscendentes ad 21 cm. longi virides striati sparse longipilosi; folium caulinum vulgo 1 sessile vel subsessile tripartitum, segmentis oblongo-linearibus usque 2.2 cm. longis integris, interdum fere linearibus; flores longipedunculati, sepalis hyalinis fere 5 mm. longis orbicularibus extus subsparse laxe longipilosis; petala 5 obovato-rotundata 9 mm. longa apice late rotundata basi late cuneato-rotundata glabra venosa laete lutea; capitulum achaeniorum globosum, achaeniis numerosis glabris turgidis laevibus ovoideis 2 mm. longis subobtusis stylo recto erecto ca. 1 mm. longo terminatis.—Mexico: Abundant in meadows below timber line, peak of Cerro Potosí, Municipio de Galeana, Nuevo León, July 21, 1935, *C. H. Mueller 2250* (type in Herb. Field Mus.).

Apparently a handsome plant because of its rather large but not very numerous flowers, noteworthy for the rounded-reniform leaves, suggestive of those of the genus *Centella*.

Ranunculus palmifolius Standl., sp. nov.—Herba perennis, radicibus dense fasciculatis gracilibus sed carnosis; folia basalia numerosa longipetiolata, petiolo ad 8.5 cm. longo sparse longipiloso; lamina 3–4.5 cm. longa ut videtur plus minusve carnosa profunde triloba, basi cuneata et longe decurrens, lobo centrali integro vel breviter trilobo, lateralibus profundius trilobis, segmentis omnibus linearibus vel oblongo-linearibus 2–3.5 mm. latis obtusis vel acutiusculis; caules pauci crassiusculi ad 15 cm. alti multistriati sparse longipilosi vel fere glabri plerumque 3–4-flori; folia caulina pauca, inferiora usque 2.5 cm. longe petiolata, superiora sessilia, inferiora basalibus similia, superiora plerumque tripartita, segmentis linearibus; flores breviter pedunculati; sepala late oblonga obtusa ca. 5 mm. longa extus sparse pilosa; petala 5 late oblonga fere 1 cm. longa apice rotundata glabra ut videtur lutea; capitulum achaeniorum ovoideum, achaeniis immaturis ovoideis numerosis dense hirtellis in stylum longum erectum rectum sensim attenuatis.—Mexico: Vicinity of Madera, Chihuahua, May–June, 1908, *Edward Palmer 300* (type in Herb. Field Mus.).

The petioles weather into numerous stiff, brown fibers that are long-persistent at the base of the plant. The basal leaves are distinctive, suggesting an open palm with outspread fingers.

Ranunculus pentodontus Standl., sp. nov.—Herba perennis; folia basalia ut videtur pauca longipetiolata erecta, petiolo usque 9 cm. longo basi dilatato et vaginante dense pilis longissimis albidis sericeo-piloso; lamina anguste oblanceolato-oblonga 7–9 cm. longa 1.5–2 cm. lata acuta, basin versus longe sensim cuneato-attenuata, prope apicem vulgo 5-dentata, dentibus acutis, fere parallelonervia, nervis ca. 5 utrinque prominentibus, supra viridis sparse longipilosa vel fere glabra, subtus dense pilis longis albidis sericeo-pilosa; caules ut videtur pauci erecti vel adscendentes graciles usque 50 cm. alti, foliis caulinis paucis basalibus similibus sed angustioribus apice vulgo tridentatis, sessilibus vel subsessilibus, dentibus interdum linearibus et elongatis, foliis supremis brevibus anguste linearibus integris; flores ca. 6 vel plures longipedunculati, pedunculis gracilibus laxe tomentosis; sepala decidua ovalia hyalina ca. 6 mm. longa apice rotundata extus pilis longissimis dense sericeo-pilosa; petala 5 laete lutea late cuneato-rotundato-obovata ca. 8 mm. longa apice late rotundata glabra intus lucida; capitula achaeniorum globosa 7 mm. longa, achaeniis numerosis suborbicularibus turgidis sed ad margines paullo incrassatis compressis laevibus pallidis 2 mm. longis apice rotundatis dense minute pilosulis, stylo vix ad 1 mm. longo incurvo basi paullo incrassato.—Mexico: Memelichi, Río Mayo, Chihuahua, on gentle forest slope, pine woods, 2,250 meters, September 17, 1936, *Howard Scott Gentry 2787* (type in Herb. Field Mus.). Quebrada Honda, Durango, May, 1906, *Edward Palmer 220*.

Noteworthy for the elongate, narrow leaves, usually 5-dentate near the apex, and with a distinctive nervation that appears at first glance to be parallel.

LAURACEAE

Litsea Tharpiana Standl., sp. nov.—Ut videtur dense ramosa, ramis vetustioribus nigrescentibus, novellis cinnamomeis subteretibus densissime brunneo-tomentellis, internodiis brevibus; folia parva breviter petiolata coriacea, petiolo 3–4 mm. longo tomentello; lamina ambitu variabilis late ovata, rotundo-ovata vel rare fere orbicularis 1.5–3 cm. longa 1.5–2.3 cm. lata, apice acutiuscula usque rotundata, basi late rotundata vel subcordata, supra in sicco cinereo-viridis sublucida puberula vel glabrata, reti venularum prominula et minute reticulata, subtus pallida glauca densiuscule pilosulo-tomentella, costa gracili prominente, nervis lateralibus utroque latere ca. 6 angulo latiusculo adscendentibus arcuatis, venulis minutissime reticulatis atque retem prominentem efformantibus; capitula evoluta non visa, juvenilia axillaria solitaria vel bina breviter pedunculata

recurva, pedunculo in statu fructifero 3 mm. tantum longo; fructus globosus apicatus 7 mm. diam.—Mexico: Hacienda Pablillo, Galeana, Nuevo León, August 21, 1936, *Mary Taylor 188* (type in Herb. Field Mus.).

A well marked species, distinguished by the short, broad leaves with unusually copious pubescence, especially on the lower surface. The species is named for Professor B. C. Tharp, who has forwarded to Field Museum for determination a vast quantity of valuable and unusually interesting material, collected in Trans-Pecos Texas and northeastern Mexico.

CRUCIFERAE

Lepidium macrum Standl., sp. nov.—Herba annua(?) erecta ca. 30 cm. alta, caulibus infra inflorescentiam simplicibus gracilibus rigidulis teretibus ubique subsparse pilis parvis stellatis sessilibus indutis, subdense foliatis; folia basalia non visa, caulina sessilia lineari-oblanceolata internodiis longiora plerumque 1–2.5 cm. longa usque 4 mm. lata obtusa, basin versus longe attenuata, superioribus minoribus, remote paucidentata vel subintegra utrinque subsparse stellato-pilosula; racemi pauci paniculati usque 10 cm. longi laxe multiflori, pedicellis rectangule patentibus 4–7 mm. longis stellato-puberulis; sepala ca. 1.5 mm. longa, petalis subaequilongis angustis albis vel purpurascentibus; siliqua ovalis vel obovato-ovalis 2.5 mm. longa et fere aequilata basi obtusa, apice truncata vel subemarginata, subdense minute stellato-puberula, stylo gracili 0.5 mm. longo vel ultra.—Mexico: Rare among shrubs of the upper canyons, Cañón de Los Capulines, above San Enrique, Hacienda San José de Raíces, Municipio de Derrumbadero, Nuevo León, August 6, 1935, *C. H. Mueller 2411* (type in Herb. Field Mus.).

ROSACEAE

Couepia calophlebia Standl., sp. nov.—Arbor 36-metralis, ramulis crassiusculis teretibus rimosis cinereo-ferrugineis, novellis dense adpresse arachnoideo-tomentosis, internodiis brevibus; folia parva breviter petiolata rigide coriacea, petiolo crasso 5–7 mm. longo adpresso-tomentoso; lamina elliptico-oblonga vel lanceolato-oblonga 5.5–8.5 cm. longa 2–3.5 cm. lata longiacuminata, basi acuta vel obtusa, supra in sicco lucida glabra, costa nervisque plus minusve impressis, venis obsoletis, subtus albida ubique tomento arcte adpresso araneoso obtecta, costa gracili elevata, nervis lateralibus utroque latere ca. 8 prominentibus gracilibus angulo semirecto adscendentibus subarcuatis marginem fere attingentibus, venulis

prominentibus transversis parallelis et arcte reticulatis connexis; flores albi spicati, spicis sessilibus densissime multifloris foliis vulgo brevioribus, rhachi crassa dense fulvo-sericea, bracteis fulvo-sericeis ad 3 mm. longis deciduis; calycis tubus lineari-turbinatus 6 mm. longus extus ut sepala densissime fulvo-sericeus, sepalis 5–6 mm. longis oblongis obtusis; petala sepalis paullo longiora late oblonga glabra apice rotundata; stamina numerosa glabra sepalis duplo longiora; ovarium densissime fulvo-hirsutum.—Brazil: State of Amazonas, near mouth of Rio Embira, a tributary of Rio Tarauaca, on terra firma, June 19, 1933, *B. A. Krukoff 4913* (type in Herb. Field Mus.).

Couepia Dahlgrenii Standl., sp. nov.—Ramuli crassi teretes sordido-ochracei sat dense foliati, novellis dense albido-araneoso-tomentosis; stipulae ferrugineae lineares ca. 3 mm. longae extus tomentosae subpersistentes; folia parva brevissime petiolata rigide coriacea, petiolo crasso vix ultra 2 mm. longo tomentoso; lamina late ovalis vel rotundato-ovata, interdum fere orbicularis, 2–4.5 cm. longa 1.5–2.5 cm. lata, apice obtusa vel late obtusa, interdum subacuta, mucronato-apiculata, basi late rotundata vel interdum subcordata, supra opaca laxe sparse albido-tomentosa, costa nervisque obscuris, subtus grisea tomento subdenso laxo araneoso induta, costa gracili elevata, nervis lateralibus utroque latere ca. 6 angulo lato adscendentibus teneris prominulis subarcuatis, venis tomento occultis; inflorescentia thyrsiformi-paniculata, interdum fere racemosa, breviter pedunculata, 7–11 cm. longa ad 5 cm. basi lata, rhachi crassa densissime puberulo-tomentosa, floribus plerumque in cymas paucifloras dispositis, interdum racemosis, bracteis parvis lanceolato-oblongis deciduis, pedicellis crassis plerumque brevibus interdum ad 7 mm. longis dense puberulo-tomentulosis; calycis tubus 5–6 mm. longus clavatus in sicco striatus dense ut sepala puberulo-tomentulosus; sepala ovalia vel oblongo-ovalia 4.5 mm. longa obtusa intus dense sericea; stamina ca. 30, filamentis glabris; fructus juvenilis ovalis ca. 9 mm. longus araneoso-tomentosus apice rotundatus.—Brazil: Campo Major, State of Piauhy, in 1935, *B. E. Dahlgren 986* (type in Herb. Field Mus.).

Related to *C. Martiana* Hook. f., which has a shorter inflorescence and relative narrow and elongate leaves.

Couepia habrantha Standl., sp. nov.—Arbor 7.5 m. alta, ramulis crassiusculis, novellis subangulatis ochraceis araneoso-tomentosis vel glabratis, internodiis brevibus; folia inter minora

breviter petiolata rigide coriacea, petiolo crasso ca. 7 mm. longo tomentoso; lamina oblonga 6–10 cm. longa 2.5–3.8 cm. lata abrupte breviter obtuso-acuminata, basi acuta, supra in sicco brunnescens lucida primo laxe tomentosa sed cito glabrata, costa prominula, nervis obscuris subimpressis, subtus rufescens tomento laxo adpresso araneoso ubique induta vel serius glabrata, costa gracili elevata, nervis lateralibus utroque latere ca. 17 angulo latiusculo divergentibus teneris prominulis, venulis obsoletis; inflorescentia spicata terminalis densissime multiflora 3–4.5 cm. longa subsessilis, rhachi crassa dense breviter velutino-pilosa, floribus arcte sessilibus, bracteis ovatis vel oblongis fere ad 1 cm. longis dense sericeis; calycis tubus 8 mm. longus oblongo-turbinatus extus dense subadpresse sericeo-pilosulus, sepalis late ovatis obtusis 4 mm. longis intus glabris; petala sepalis paullo longiora praeter apicem pilosulum glabra; stamina numerosa ca. 1 cm. longe exserta, filamentis glabris; ovarium ut stylus basi villosum.—Brazil: State of Amazonas, Humayta, between Monte Christo and Santa Victoria on Rio Ipixuna, margin of river, November, 1934, *B. A. Krukoff 7252* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Well marked by the short and very dense inflorescence, with large but deciduous bracts.

Couepia Krukovii Standl., sp. nov.—Arbor 6–15-metralis, ramulis crassis subteretibus rimosis ferrugineo-ochraceis vel fuscis, internodiis brevibus, densissime pilis brevissimis adpressis vel adscendentibus fulvis pilosis; stipulae persistentes paullo ultra 1.5 cm. longae lineari-attenuatae adpresso-pilosulae; folia inter maxima brevissime petiolata subcoriacea, petiolo crasso 3–6 mm. longo dense adpresse tomentuloso; lamina anguste oblonga 22–33 cm. longa 5–8 cm. lata apice rotundata et abrupte breviter apiculato-acuminata vel angustata atque acuminata, basi anguste rotundata, supra in sicco vix lucida, in juventute ut videtur laxe araneoso-tomentosa sed cito glabrata, costa prominente, nervis venulisque vix prominulis, subtus fere concolor primo arcte pilis longis laxis pallidis araneoso-tomentosa sed cito glabrata vel fere omnino glabra, costa gracili elevata, nervis lateralibus utroque latere 19–23 angulo lato adscendentibus prominentibus teneris fere rectis prope marginem arcuato-conjunctis, venulis prominulis laxe reticulatis; inflorescentia terminalis vel lateralis spicata dense pauciflora sessilis, rhachi ad 2.5 cm. longa angulata dense breviter subpatenti-pilosa, floribus arcte sessilibus magnis, bracteis ca. 8 mm. longis adpressis persistentibus late ovatis acutis vel acuminatis extus dense sericeis cari-

natis; calycis tubus cylindraceus 2.5 cm. longus 4 mm. crassus subcurvus extus sicut sepala densissime pilis brevibus fulvis subpatentibus vel adpressis pilosulo-tomentosus, sepalis rotundato-ovatis vel late ovalibus fere 1 cm. longis obtusis patentibus intus dense minute sericeis; stamina numerosissima glabra fere 3 cm. longa; stylus basin versus dense longivillosus.—Brazil: State of Amazonas, Humayta, near Tres Casas, on restinga alta, September 22, 1934, *B. A. Krukoff 6208* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard). Manicore, near Bella Vista, September, 1934, *Krukoff 6007*.

The very large, long and narrow leaves are distinctly unlike those of any other Brazilian species.

Couepia latifolia Standl., sp. nov.—Arbor 15-metralis, ramulis gracilibus longitrorsum rugosis ferrugineis glabratis; folia magna brevissime petiolata tenuia vix coriacea, petiolo crasso ad 1 cm. longo glabrato; lamina ovalis vel oblongo-ovalis 17–24 cm. longa 7.5–12 cm. lata, apice rotundata vel obtusa et breviter obtuse apiculato-acuminata, basi obtusa vel late rotundata, supra in sicco lucida cinereo-viridis glabra, costa prominente, nervis subimpressis, venis vix prominulis, subtus paullo pallidior sub oculo ut videtur glabra sed vere tomento fere microscopico arcte adpresso pallido plus minusve induta, costa gracili elevata, nervis lateralibus utroque latere ca. 17 angulo lato divergentibus gracilibus prominentibus subarcuatis juxta marginem arcuato-conjunctis, venulis prominulis laxe reticulatis; inflorescentia non visa; calycis tubus 1.5 cm. longus lineari-clavatus extus densissime adpresse cinnamomeo-tomentulosus interdum valde curvus, sepalis oblongis recurvis ca. 1 cm. longis extus densissime tomentosis obtusis; petala sepalis subaequilonga glabra; stamina perplurima glabra; fructus oblongus teres glaber vel glabratus 3–4.5 cm. longus 1–1.5 cm. diam. apice anguste rotundatus.—Brazil: State of Amazonas, Manicore, near Bella Vista, restinga alta, September, 1934, *B. A. Krukoff 6005* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Hirtella Duckei Huber, Bol. Mus. Goeldi 6: 74. 1910.—The following recent Brazilian collections have been seen: Amazonas, Paranagua, Municipality Teffe, on terra firma, a tree of 6 meters, *Krukoff 4557*. Amazonas, Humayta, near Livramento, on terra firma, a tree of 6 meters, *Krukoff 6834*.

Hirtella egensis Fritsch, Ann. Hofmus. Wien 5: 10. 1890.—A single recent collection agrees exactly with the original material, which was collected at Ega: Mata do Cachoeira, Maracassumé

River region, Maranhão, a tree of 13 meters, the trunk 18 cm. in diameter, *R. Froes 1899*.

Hirtella physophora Mart. & Zucc. Abh. Akad. Muenchen 10: 374. 1832.—The type was collected by Spruce at Barra. The following Brazilian collections are conspecific: Amazonas, Humayta, near Livramento, on terra firma, a tree of 6 meters, *Krukoff 6874*. Amazonas, São Paulo de Olivença, on high land, a shrub of 4.5 meters, the trunk 5 cm. in diameter, the flowers white, *Krukoff 8190*.

Hirtella purusana Huber, Bol. Mus. Goeldi 6: 72. 1910.—A single recent Brazilian collection of this well marked species has been examined: Amazonas, Humayta, near Livramento, on terra firma, a shrub of 5.5 meters, *Krukoff 6983*.

Hirtella racemosa Lam. var. **oblongifolia** (DC.) Standl., comb. nov. *H. oblongifolia* DC. Prodr. 2: 529. 1825. *H. americana* var. *oblongifolia* Benth. in Mart. Fl. Bras. 14, pt. 2: 34. 1867.—This variety seems to be common in the upper Amazon Valley. In general appearance, particularly in leaf form, it is so unlike the more widespread forms of *H. racemosa* that it may perhaps deserve the specific rank given it by De Candolle.

Hirtella rasa Standl., sp. nov.—Arbor 6–27-metralis, ramulis gracilibus teretibus ferrugineis pallido-lenticellatis primo sparsissime pilis parvis subadpressis pallidis pilosulis cito glabratis, internodiis brevibus vel paullo elongatis; folia modica vel majuscula breviter petiolata subcoriacea, petiolo crassiusculo 5–7 mm. longo strigilloso; lamina elliptico-oblonga vel oblonga, rare ovali-elliptica 11–13 cm. longa 4–6.5 cm. lata acuta vel breviter acuminata, apice ipso obtuso, basi acuta ad rotundata et saepe subito breviter contracta, supra in sicco lucida tactu asperula, ad venas sparse minute hispidula vel fere omnino glabra, costa ut nervis prominula, venulis prominulis arcte reticulatis, subtus vix pallidior asperula sparse minute strigilloso-scaberula vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere ca. 9 angulo latiusculo adscendentibus teneris arcuatis, venulis vix prominulis arcte reticulatis; inflorescentia terminalis corymboso-paniculata 8–19 cm. longa et fere aequilata sessilis vel breviter pedunculata solemniter ramosa laxe multiflora, ramis valde adscendentibus rigidis pilis minutis adscendentibus vel adpressis cinereis vel fulvis dense pilosulis, bracteis bracteolisque parvis late ovatis obtusis deciduis eglandulosis, floribus sessilibus vel breviter pedicellatis; calyx densissime minute fulvo- vel cinereo-sericeus, tubo turbinato fere 3 mm. longo basi acuto, sepalis rotundo-ovalibus

aequilongis apice late rotundatis reflexis; petala lata alba glabra apice rotundata fere 4 mm. longa; stamina 5, filamentis purpureis glabris elongatis; ovarium densissime patenti-pilosum.—Peru: On river bank, Juanjuí, Dept. San Martín, Alto Río Huallaga, 400–800 meters, February, 1936, *G. Klug 4249* (type in Herb. Field Mus.).—Brazil: Territory of Acre, near mouth of Rio Macauhan, a tributary of Rio Yaco, on terra firma, August, 1933, *B. A. Krukoff 5525*.

In Hooker's account of this genus in the *Flora Brasiliensis*, the present plant runs in the key at once to *H. scabra* Benth., a species of the Guianas and the upper Amazon. That differs conspicuously in having leaves only half as large, as well as in numerous minor details.

Hirtella Sprucei Benth. in Mart. Fl. Bras. 14, pt. 2: 30. 1867.—One recent Brazilian collection of this apparently rare species has been seen: Amazonas, near mouth of Rio Embira, on terra firma, a tree of 9 meters, *Krukoff 4684*.

Licania anisophylla Standl., sp. nov.—Arbor 22-metralis, trunco 23 cm. diam., ut videtur dense ramosa, ramulis crassiusculis teretibus rimosis cinnamomeis, novellis dense adpresse minute fulvo-tomentulosis, internodiis brevibus; folia modica breviter petiolata rigide coriacea, petiolo crasso 4–6 mm. longo primo dense minute tomentuloso; lamina forma insigniter variabilis elliptico-oblonga ad elliptica vel elliptico-rotundata 4.5–10 cm. longa 3–7 cm. lata apice obtusa atque abrupte breviter obtuso-acuminata vel subcaudato-acuminata, interdum rotundata et apiculato-acuminata, basi obtusa vel acutiuscula, interdum rotundata, supra lucida glabra, costa venisque manifestis sed non elevatis, venis obsoletis, subtus brunnescens, ubique tomento adpresso lanato subferruginoso obtecta, costa crassiuscula elevata, nervis lateralibus utroque latere 5–6 prominentibus arcuatis prope marginem obscure conjunctis angulo semirecto adscendentibus, venulis prominulis sed tomento fere occultis arcte reticulatis; inflorescentia paniculata foliis longior, ramis rigidis angulo ca. semirecto adscendentibus crassis densissime minute ferrugineo-tomentosis, floribus arcte sessilibus solitariis vel secus ramos remote aggregatis, bracteis minutis vix ad 1 mm. longis late ovatis persistentibus; calyx fructifer vix ultra 2 mm. longus minute fulvo-adpresso-pilosulus, tubo intus non araneoso, lobis tubo brevioribus rotundato-ovatis obtusis intus minute sericeis; fructus juvenis clavato-oblongus ca. 8 mm. longus apice rotundatus subdense minute adpresso-pilosulus.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, low land, September–October,

1936, *B. A. Krukoff 8451* (type in herb. N. Y. Bot. Gard.; photo. in Herb. Field Mus.).

Related to *L. micrantha* Miq., which also occurs in the Amazon Valley, but differing obviously in the shape, venation, and indument of the leaves.

Licania aspera Standl., sp. nov.—Arbor 15-metralis, trunco 20 cm. diam., ramulis crassiusculis teretibus primo densissime pilis brevibus patentibus vel adscendentibus fulvis pilosis, internodiis brevibus; folia majuscula breviter petiolata tenuiter coriacea, petiolo crasso vix ad 7 mm. longo dense pilosulo-tomentoso; lamina oblonga vel elliptico-oblonga ca. 20 cm. longa atque 8.5 cm. lata acuta vel breviter acuminata, basi rotundata vel subtruncata, interdum subcordata, supra in sicco grisea sublucida ubique dense pustulato-punctata, tactu asperrima, costa elevata, nervis venisque manifestis sed vix prominulis, subtus albida tomento adpresso araneoso dense induta, costa gracili elevata, nervis lateralibus utroque latere ca. 10 angulo semirecto adscendentibus teneris fere rectis prominentbus prope marginem irregulariter arcuato-conjunctis, venulis insigniter prominentibus arcte reticulatis; paniculae axillares et terminales foliis breviores laxe pauciramosae sessiles, ramis patentibus gracilibus densissime pilis patentibus brevibus fulvis pilosis, floribus secus ramos solitariis vel subaggregatis sessilibus, bracteis patentibus oblongo-lanceolatis acuminatis ad 3 mm. longis persistentibus extus pilosulis intus ferrugineis glabris; calyx subcampanulatus 2 mm. longus extus densissime patenti-pilosulus, lobis tubo paullo longioribus late ovatis obtusis intus breviter pilosis; antherae exsertae.—Brazil: State of Pará, Cajutuba, Tapajos region, on high land, January 18, 1932, *R. C. Monteiro da Costa 279* (type in Herb. Field Mus.).

Vernacular name Pajurá-rana. Easily recognized by the pustulate-scabrous upper surface of the leaves.

Licania celativenia Standl., sp. nov.—Arbor 6–33-metralis, ramulis crassis ferrugineis vel fuscis teretibus rimosis glabris, internodiis brevibus; folia modica petiolata rigide coriacea, petiolo crasso 1–2 cm. longo glabro; lamina obovato-oblonga 6–11.5 cm. longa 3.5–6 cm. lata, apice late rotundata et vulgo leviter emarginata, basin acutam versus paullo angustata, supra in sicco lucida glabra, costa nervisque manifestis sed non elevatis, venis obsoletis, subtus brunnescens glabra vel primo sparse minutissime puberula, sublucida, costa crassiuscula prominente, nervis lateralibus utroque

latere ca. 9 angulo semirecto adscendentibus teneris prominulis subarcuatis vel fere rectis prope marginem irregulariter arcuato-conjunctis, venis obsoletis; inflorescentia fructifera paniculata fere corymbiformis laxe multiflora foliis longior, ramis crassis ferrugineis subangulatis sparse breviter patenti-pilosis, floribus sessilibus; fructus subglobosus (immaturus) et ca. 2 cm. longus, apice rotundatus dense puberulo-tomentulosus et sparse hirsutus, vel interdum 3 cm. longus 1.5 cm. latus oblongo-ovoideus et apice acutatus.—Brazil: State of Amazonas, Humayta, on plateau between Rio Livramento and Rio Ipixuna, on campinarana, November, 1934, *B. A. Krukoff 7182* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.). Also *No. 7120* from the same region.

The species is well marked by the general lack of pubescence on the vegetative parts, and by the suppressed veins of the leaves. The two collections cited exhibit slight differences, particularly in the form of the fruit, but they probably represent a single species.

Licania Dahlgrenii Standl., sp. nov.—Ramuli graciles teretes ferruginei dense lenticellati, novellis laxe araneoso-tomentosis, glabrescentibus, internodiis brevibus; stipulae lineares ad 8 mm. longae ferrugineae; folia parva breviter petiolata tenuiter coriacea, petiolo crasso vix ad 4 mm. longo laxe tomentoso; lamina oblonga vel ovato-oblonga, interdum ovata, 5–8.5 cm. longa 2–4.5 cm. lata obtusa, basi inaequaliter obtusa vel subrotundata, supra in sicco lucida glabra, costa ut nervis venisque prominula vel prominente, subtus fere concolor, primo laxe araneoso-tomentosa cito glabrata, costa gracili elevata, nervis lateralibus utroque latere ca. 9 teneris angulo latiusculo adscendentibus arcuatis prope marginem irregulariter arcuato-cinjunctis, venulis prominentibus subarcte reticulatis; paniculae terminales et axillares sessiles laxe multiflorae magnae usque 18 cm. longae, ramis gracilibus subpatentibus densiuscule griseo-tomentulosis, floribus sessilibus plerumque in fasciculos trifloros brevissime pedunculatos dispositis, fasciculis secus ramos remote insertis, bracteis minutis minus quam 1 mm. longis triangularibus intus glabris; calyx 2.5 mm. longus extus intusque griseo-tomentulosus, lobis ovatis obtusis tubo paullo longioribus; stamina 10 calyce plus quam duplo longiora, filamentis glabris.—Brazil: State of Piauhy, Pedro Segundo, in 1935, *B. E. Dahlgren 876* (type in Herb. Field Mus.).

Licania elliptica Standl., sp. nov.—Arbor 23-metralis, ramulis gracilibus teretibus ochraceis vel subferrugineis rimosis et lenti-

cellis magnis pallidis notatis, novellis glabris, internodiis brevibus; folia modica vel majuscula brevissime petiolata coriacea, petiolo crassiusculo ca. 5 mm. longo glabro; lamina elliptica vel oblongo-elliptica 12–14.5 cm. longa 6–8 cm. lata, apice obtusa et abrupte acuminata vel cuspidato-acuminata, interdum apice late rotundata et apicata, basi acuta, supra in sicco sublucida glabra, costa nervisque prominulis, venulis manifestis sed vix prominulis, subtus juventute glauca et minutissime dense albo-tomentulosa, serius glabrata, costa gracili prominente, nervis lateralibus utroque latere ca. 8 angulo latiusculo adscendentibus prominentibus arcuatis marginem fere attingentibus, venulis inconspicuis laxe reticulatis; inflorescentiae axillares et terminales paniculatae laxe multiflorae foliis longiores vel breviores, ramis gracilibus viridibus glabris vel sparse puberulis, floribus sessilibus solitariis vel remote aggregatis, bracteis minutissimis; alabastra globoso-obovoidea apice rotundata extus minute fulvo-tomentulosa; calyx 2 mm. longus, lobis tubo multo brevioribus obtusis intus tomentellis; petala nulla; stamina vulgo 3.—Brazil: State of Amazonas, near mouth of Rio Embira, a tributary of Rio Tarauaca, June 27, 1933, on varzea land, *B. A. Krukoff 5014* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Licania Krukovii Standl., sp. nov.—Arbor 15-metralis, ramulis crassis teretibus densissime pilis patentibus vel adscendentibus fulvis vel brunneis pilosis vel subtomentosis, internodiis brevibus; stipulae persistentes petiolo adnatae late ovatae acutae ad 1 cm. longae extus dense fulvo-pilosae; folia majuscula breviter petiolata subcoriacea, petiolo crasso vix ad 7 mm. longo dense piloso-tomentoso; lamina oblonga vel lanceolato-oblonga 14–21 cm. longa 5–10 cm. lata vulgo longiacuminata, basi subrotundata ad acutiuscula, supra in sicco fusco-brunnescens sublucida, primo sat dense fulvo-hispidula, cito glabrata, costa gracili prominente, nervis manifestis subimpressis, venulis obscuris vel interdum subimpressis, subtus pallidior ubique dense molliter fulvo-hispidula, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 13 elevatis gracilibus angulo latiusculo adscendentibus juxta marginem arcuato-conjunctis, venulis prominulis laxe reticulatis; paniculae terminales et axillares laxe pauciramosae foliis breviores, ramis crassis densissime brunneo-piloso-tomentosis, bracteis extus dense fulvo-pilosulis lanceolatis vel fere subulatis, infimis ad 2 mm. longis, floribus arcte sessilibus secus rhachin remote aggregatis; calyx ca. 2 mm. longus extus intusque dense breviter velutino-pilosulus, lobis tubo multo

brevioribus late ovatis acutiusculis; petala 5 minuta; stamina ca. 5. —Brazil: State of Amazonas, near mouth of Rio Embira, a tributary of Rio Tarauaca, on terra firma, June 28, 1933, *B. A. Krukoff 5070* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

Closely related to *L. intrapetiolaris* Spruce, which has glabrous leaves and branches. Also related are *L. latifolia* Benth. and *L. obovata* Benth., in both of which species the leaves are rounded at the apex.

Licania oblongifolia Standl., sp. nov.—Arbor 16–33-metralis, trunco 30 cm. et ultra diam., ramulis crassis subteretibus plus minusve ferrugineis rimosis et lenticellis numerosis parvis pallidis conspersis glabris, internodiis brevibus; stipulae petiolo adnatae, parte libera filiformi 5 mm. longa; folia mediocria breviter petiolata tenuiter coriacea, petiolo glabro crasso usque 1 cm. longo supra canaliculato; lamina in sicco interdum complicata anguste oblonga vel interdum lineari-oblonga 11–14 cm. longa 2.5–5 cm. lata acuta vel breviter obtuso-acuminata, basin versus vix angustata, basi rotundata vel obtusissima, glabra, supra in sicco brunneo-fuscescens sublucida, costa prominente, nervis prominulis, venis manifestis sed vix elevatis, subtus concolor, costa gracili elevata, nervis lateralibus utroque latere ca. 11 angulo latiusculo adscendentibus prominulis teneris prope marginem irregulariter arcuato-conjunctis, venulis prominulis laxiuscule reticulatis; inflorescentia (in statu fructifero tantum visa) ut videtur parva et pauciflora, ramis glabris vel glabratis crassis; fructus maturus fere sessilis ovoideo-globosus 5.5 cm. longus 4.5 cm. latus, basi et apice rotundatus, ferrugineus, ubique in sicco grosse reticulato-rugosus glabratus.—Brazil: State of Amazonas, Humayta, near Livramento, on Rio Livramento, on terra firma, October–November, 1934, *B. A. Krukoff 6812* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.). Humayta, on plateau between Rio Livramento and Rio Ipixuna, in cipoal, November, 1934, *Krukoff 7216*. State of Matto Grosso, near Tabajaza, upper Machado River region, on varzea land, November–December, 1931, *Krukoff 1452*.

Vernacular name Castanha (Matto Grosso). Marked by the narrowly oblong leaves with parallel sides, similar to those of *L. macrophylla* Benth. but much smaller.

Licania pallida Britton, Bull. Torrey Club 17: 9. 1890. *L. Britteniana* Fritsch, Oesterr. Bot. Zeitschr. 42: 6. 1892. *Moquilea elata* Pilger, Notizbl. Bot. Gart. Berlin 6: 136. 1914.

Licania pallida was renamed unnecessarily by Fritsch, there being no older valid homonym. *L. pallida* Spruce was published by Hooker f. merely in synonymy in the *Flora Brasiliensis*. There is also an *L. pallida* (Hook. f.) Kuntze, published in 1891, based upon *Moquilea pallida* Hook. f., and later renamed *Licania Hookeri* by Fritsch. In renaming Britton's species, Fritsch evidently misunderstood the name of its author. Apparently synonymous with *L. pallida* Britton is *Moquilea elata* Pilger, as indicated by a photograph of the Berlin type and material identified with it at Berlin by Macbride. The following material of this species has been examined by the writer.

Bolivia: Junction of rivers Beni and Madre de Dios, *Rusby 2442*, type collection of *L. pallida* Britton.—Peru: Puerto Arturo, Dept. Loreto, 200 meters, *Williams 5064*.—Brazil: Alto Acre, Seringal São Francisco, *Ule 9446* (type of *M. elata;* photo. in Herb. Field Mus.). Amazonas, São Paulo de Olivença, near Palmares, on high land, a tree of 27 meters, the trunk 25 cm. in diameter, *Krukoff 8507;* in low land, high forest, a tree of 21 meters, the trunk 20 cm. in diameter, *Krukoff 8445*. Amazonas, Humayta, near Tres Casas, on varzea land, a tree of 50 meters, *Krukoff 6139;* on restinga alta, a tree of 36 meters, local name "pajurá," *Krukoff 6306*. Territory of Acre, near mouth of Rio Macauhan, on terra firma, a tree of 40 meters, *Krukoff 5635*. Amazonas, near mouth of Rio Embira, on varzea land, a tree 23 meters high with white flowers, *Krukoff 5165*.

Licania riparia (Gleason) Standl., comb. nov. *Moquilea riparia* Gleason, Bull. Torrey Club 61: 192. 1934.

Licania stenocarpa Standl., sp. nov.—Arbor 16-metralis, trunco 15 cm. diameter, ut videtur dense ramosa, ramulis gracilibus teretibus ferrugineis vel fuscis rimosis, novellis sat dense tomentulosis, internodiis brevibus; stipulae breviter petiolo adnatae filiformes usque 7 mm. longae; folia parva breviter petiolata tenuiter coriacea, petiolo crassiusculo 6–8 mm. longo tomentuloso; lamina oblongo-elliptica 6.5–8.5 cm. longa 3–4.3 cm. lata abrupte anguste obtuso-acuminata, basi obtusa, supra in sicco lucida glabra, costa elevata, nervis planis vel prominulis, venis manifestis sed vix elevatis, subtus paullo pallidior tomento minuto adpresso subfulvo dense induta, costa gracili elevata, nervis lateralibus utroque latere ca. 8 angulo latiusculo adscendentibus arcuatis teneris prominentibus prope marginem irregulariter arcuato-conjunctis, venulis prominulis crassiusculis arctissime reticulatis; paniculae (in statu fructifero tantum visae)

parvae foliis vulgo breviores pauciramosae, ramis gracilibus tomentulosis et pilosulis remotifloris, floribus sessilibus, bracteis persistentibus interdum reflexis triangularibus ca. 1 mm. longis acutis; calyx sub fructum persistens ca. 2 mm. longus extus dense minute adpresso-tomentulosus, fauce longipilosus, lobis brevissimis obtusis; fructus immaturus anguste oblongus teres 14 mm. longus 4 mm. latus sessilis apice anguste rotundatus glaber.—Brazil: State of Amazonas, São Paulo de Olivença, near Palmares, terra firma, high land, September–October, 1936, *B. A. Krukoff 8553* (type in herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

Related, perhaps, to *L. emarginata* Spruce, whose leaves are glabrous and not or scarcely acuminate.

Parinarium pilosum Standl., sp. nov.—Arbor 33-metralis, ramulis crassiusculis fuscis vel ferrugineis rimosis, novellis dense pilis patentibus vel adscendentibus rigidulis brunnescentibus vel fulvis pilosis, internodiis brevibus vel subelongatis; stipulae ferrugineae lineares ad 1.5 cm. longae adpresso-pilosae persistentes; folia modica breviter petiolata rigide coriacea, petiolo crasso 6–10 mm. longo dense patenti-piloso; lamina oblongo-elliptica, oblonga vel ovali-elliptica 8.5–14 cm. longa 3.5–7.5 cm. lata, apice obtusa vel rotundata, interdum subemarginata, rare breviter acuminato-apicata, basi rotundata vel obtusa, marginibus plus minusve recurvis, supra lucida ad costam prominulam fulvo-hispidula, aliter glabra, nervis subimpressis, venis fere obsoletis, subtus ubique sparse molliter pilis longiusculis fulvis patentibus pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 12 elevatis angulo latiusculo adscendentibus arcuatis marginem fere attingentibus, venulis solemniter elevatis et arctissime reticulatis; inflorescentia non visa; fructus ovoideo-globosus ca. 6 cm. longus et aequilatus basi et apice rotundatus ubique tomento fulvo subvelutino densissime obtectus.—Brazil: State of Amazonas, Humayta, on plateau between Rio Livramento and Rio Ipixuna, on campinarana alta, November, 1934, *B. A. Krukoff 7109* (type in Herb. Field Mus.; duplicate in herb. N. Y. Bot. Gard.).

It is unsatisfactory to have no flowering material for preparation of a description, but the tree is clearly unlike any species known from Brazil, as indicated by the shape and indument of the leaves.

Potentilla exsul Standl., sp. nov.—Perennis humilis, rhizomate crasso apice basibus foliorum vetustorum dense obtecto; folia basalia pauca 5-foliolata vel rare 3-foliolata, petiolo 2.5–5.5 cm.

longo gracili pilis longis albis patentibus vel adscendentibus dense piloso; foliola inaequalia, infima minora, cuneato-oblonga 2–3.5 cm. longa 7–12 mm. lata, basin versus cuneato-angustata, apice late rotundata, supra basin grosse crenata, crenaturis utroque latere 6 vel paucioribus, supra viridia sparse pilis rigidulis longis strigosa, subtus dense longisericea atque albo-tomentosa; scapus vix folia aequans ca. 4-florus gracilis longipilosus, versus basin bracteatus, pedicellis gracilibus longipilosis usque 1.5 cm. longis; calyx extus dense pilis longis albis subadpressis indutus, sepalis lanceolato-oblongis 5–6 mm. longis acuminatis vel attenuato-acutis, bracteolis lanceolato-oblongis sepala fere aequantibus; petala ut videtur pallide lutea late obovata apice subtruncata glabra ca. 1 cm. longa. —Mexico: Along mountain stream, near Mesa de Correo, Chihuahua, July 2, 1936, *Harde LeSueur 663* (type in Herb. Field Mus.).

Potentilla Mexiae Standl., sp. nov.—Herba perennis plus minusve caespitosa e radice longissima crassa sublignea nascens, humilis, basibus foliorum vetustorum longe persistentibus; folia basalia numerosa congesta parva, petiolis usque 2.5 cm. longis gracilibus pilis longis adscendentibus albidis dense pilosis; foliola 5 oblongo-obovata vel cuneato-obovata 6–15 mm. longa 4–6 mm. lata apice obtusa vel rotundata, basin versus plus minusve cuneato-angustata, crenata, crenaturis utroque latere 3–4 ovatis obtusis, supra griseo-viridia dense albido-strigosa, subtus fere concoloria densius pilis longis strigosa et tomentosa; caules numerosi erecti vel decumbentes vix ultra 7 cm. alti graciles dense pilis longis albis adscendentibus pilosi, prope basin vulgo 1-foliati, bracteis superioribus valde reductis et trifoliolatis, floribus paucis vulgo 3–5 cymam parvam laxam efformantibus breviter pedicellatis; calyx extus dense griseo-strigosus, sepalis 5 mm. longis ovato-oblongis acutis, bracteolis oblongis obtusis sepalis paullo brevioribus; petala lutea sepalis paullo longiora glabra apice subtruncata vel emarginata; achaenia pauca laevia viridia ca. 1.3 mm. longa.—Mexico: Southwest of Basuchil, District of Guerrero, Chihuahua, on dry, gravelly plateau, forming small mats, May 18, 1929, *Ynes Mexia 2542* (type in Herb. Field Mus.). Majalca, Chihuahua, June 24, 1936, *Harde LeSueur 655.*

Potentilla leonina Standl., sp. nov.—Perennis humilis caespitosa, radice apice incrassata atque basibus foliorum vetustorum dense obtecta plus minusve lignosa; folia basalia numerosa 5-foliolata, petiolis usque 2.5 cm. longis dense pilis longissimis albis patentibus vel adscendentibus pilosis; foliola cuneato-oblonga plerumque

1.5–3 cm. longa atque 5–9 mm. lata, apice obtusa vel rotundata, basin versus cuneato-angustata, crenata, crenaturis utroque latere 4–5 obtusis subadpressis, supra viridescentia subdense pilis longis piloso-strigosa, subtus alba sat dense piloso-strigosa et densissime tomentosa; caules pauci usque 11 cm. longi erecti vel decumbentes pilis longis albis laxis adscendentibus pilosi infra medium 1–2-foliati, bracteis inflorescentiae vulgo 3-foliolatis et valde reductis, floribus paucis laxe cymosis, pedicellis gracilibus usque 1.5 cm. longis; calyx extus dense pilis longis albis subadpressis pilosus, sepalis 7 mm. longis attenuato-acutis ovato-oblongis, bracteolis lanceolato-oblongis obtusis sepalis fere aequilongis; petala fere obreniformia pallide lutea ca. 1 cm. longa et aequilata profunde emarginata; achaenia viridia laevia.—Mexico: Abundant in alpine meadows above timber line, peak of Cerro Potosí, Municipio de Galeana, Nuevo León, July 21, 1935, *C. H. Mueller 2242* (type in Herb. Field Mus.).

Evidently this plant is closely related to *P. Mexiae*, but it differs conspicuously enough in being substantially larger in all its parts, particularly the flowers.

LEGUMINOSAE

Calliandra Gentryi Standl., sp. nov.—Frutex 3–5-metralis, ramis gracilibus subteretibus dense pilis brevibus patenti-pilosis, internodiis elongatis; stipulae 5 mm. longae persistentes dense pilosae; folia majuscula longipetiolata, rhachi 2–4 cm. longa, pinnis 2–3-jugis 3.5–5.5 cm. longis; foliola plerumque 5-juga late obliquo-ovalia vel late obovato-ovalia 1–2 cm. longa 6–12 mm. lata membranacea, apice late rotundata vel truncata et brevissime apiculata, basi valde obliqua late rotundata vel truncata et obscure trinervia, supra viridia sparse adpresso-pilosula, nervis venisque obscuris, subtus pallidiora dense pilis brevibus subadpresses rectis vel incurvis pilosa; capitula axillaria vel racemum brevem terminale efformantia staminibus exclusis ca. 1.5 cm. diam. globosa dense multiflora, pedunculo gracili 2–5 cm. longo dense patenti-piloso basi bracteato, bracteis oblongis viridibus ca. 5 mm. longis; bracteis capitulorum oblongis viridibus glabris; calyx glaber 4 mm. longus fere ad basin lobatus, lobis viridibus oblongis acutiusculis; corolla 6 mm. longa glabra profunde lobata, lobis apice viridibus; stamina alba 3 cm. longa.—Mexico: Guasaremos, Río Mayo, Chihuahua, in canyon, August 5, 1936, *Howard Scott Gentry 2363* (type in Herb. Field Mus.); a tall, slender shrub; flowers white, wilting with warmth.

Huisiego, Río Mayo, Chihuahua, in canyon, riparian, August 15, 1936, *Gentry 2389;* stamens greenish white, erect in the early morning.

Vernacular name Clavellino. Referable, apparently, to Britton and Rose's group *Formosae.*

Desmodium Gentryi Standl., sp. nov.—Herbacea, caule gracillimo subtereti glabro vel glabrato, internodiis brevibus vel elongatis; stipulae deciduae ca. 1 cm. longae brunneae striatae ciliatae lineari-lanceolatae longe anguste attenuatae; folia majuscula 3–4 cm. longe petiolata, petiolo gracili striato glabro, rhachi 8–13 mm. longa glabra, stipellis linearibus ad 8 mm. longis, petiolulis vix ad 2 mm. longis pilosulis; foliola 3 anguste lanceolato-oblonga vel oblonga, rare elliptico-oblonga, plerumque 6–12 cm. longa atque 1.5–2.5 cm. lata, longe anguste attenuata, rarius acuta vel obtusa, basi late rotundata, membranacea, supra in sicco laete viridia glabra vel glabrata, venis prominulis laxe reticulata, subtus paullo pallidiora, ad nervos sparse adpresso-pilosa vel glabra, costa nervisque prominentibus gracillimis; flores racemosi, racemis 26 cm. longis et ultra remote paucifloris, bracteis caducis lineari-lanceolatis ca. 5 mm. longis, rhachi gracili dense breviter uncinulato-pilosula, pedicellis ad 4 mm. longis viscido-uncinulato-pilosulis; calyx pallide viridis ca. 3 mm. longus fere glaber, lobis valde inaequalibus lanceolato-triangularibus acuminatis; corolla 7 mm. longa glabra; legumen 2–2.5 cm. longum 3 mm. latum, brevissime stipitatum, utroque margine sed superiore brevius rotundato-lobatum, articulis ca. 6 densissime viscido-uncinulato-hispidulis.—Mexico: Arroyo Hondo, Sierra Charuco, Chihuahua, in pine flats, September 11, 1935, *Howard Scott Gentry 1749* (type in Herb. Field Mus.).

"Flowers yellowish white, with two green spots on the upper lip."

Desmodium lavanduliflorum Standl., sp. nov.—Herba procumbens, caule gracili elongato subtereti densissime pilis brevibus uncinulatis viscidis piloso, internodiis elongatis; stipulae virides membranaceae persistentes 12–15 mm. longae e basi late ovato-cordatae abrupte longicaudatae dense pilis longis laxis pilosae; folia longipetiolata, petiolo dense piloso, rhachi 1 cm. longa vel paullo ultra, stipellis linearibus ca. 5 mm. longis, petiolulis ad 2 mm. longis dense longipilosis; foliola 3 orbicularia vel rotundato-ovalia 2.5–4.5 cm. lata, apice late rotundata mucronata, basi late rotundata vel subtruncata, membranacea, supra in sicco viridia dense bulboso-punctata dense pilis longis laxis pilosa, subtus paullo pallidiora similiter sed densius pilosa; flores racemosi, racemis simplicibus

remote laxe pauc- vel multiflori longipedunculati usque 28 cm. longi, rhachi dense glanduloso-pilosa, pedicellis fructiferis plerumque 1.5–2 cm. longis gracillimis patentibus vel adscendentibus, bracteis caducis non visis; calyx ca. 4 mm. longus purpureo tinctus sparse pilosulus vel glabratus, lobis valde inaequalibus acutis vel acuminatis; corolla ca. 8 mm. longa, petalis glabris; legumen vix ultra 1 mm. longe stipitatum 2.5–3.5 cm. longum 4 mm. latum utroque margine, superiore paullo brevius, crenato-lobatum, articulis 5–6 oblique rotundato-ovalibus densissime viscido-uncinato-pilosulis, stylo fere 5 mm. longo.—Mexico: Quicorichi, Río Mayo, Chihuahua, in pine forest, October 7, 1935, *Howard Scott Gentry 1963* (type in Herb. Field Mus.).

"Procumbent; flowers lavender."

Desmodium quercetorum Standl., sp. nov.—Herba ut videtur erecta 60 cm. alta et ultra, caulibus gracilibus teretibus viridibus dense pilis patentibus pallidis uncinulato-piloso, internodiis brevibus; stipulae virides membranaceae persistentes nervosae e basi lanceolato- vel ovato-cordata abrupte longiacuminatae vel cuspidatae hispido-ciliatae, aliter glabrae; petiolus gracilis 5–7 mm. longus pilosus, stipellis subulatis 3 mm. longis; foliolum 1 ovatum, ovato-oblongum vel lanceolato-oblongum 3.5–7 cm. longum 1–3 cm. latum, apice rotundatum et longe mucronatum, basi obtusum vel anguste rotundatum, membranaceum, supra in sicco viride, tuberculato-papillosum, sparse pilis longis albidis pilosum, venis prominulis reticulatis, subtus fere concolor subdense pilis albidis subadpressis pilosum; racemi paniculati laxe pauci- vel multiflori 7–23 cm. longi pedunculati, floribus remotis, rhachi dense viscido-pilosa, bracteis deciduis 5–8 mm. longis ovatis vel lanceolatis viridibus cuspidato-attenuatis nervosis, pedicellis gracillimis plerumque 9–13 mm. longis patentibus vel adscendentibus viscido-pilosis; calyx purpureus vix ultra 2 mm. longus sparse pilosulus profunde lobatus, lobis inaequalibus acutis vel acuminatis; corolla 5–6 mm. longa, petalis glabris; legumen fere sessile, in statu juvenili 2 mm. latum glabrum, utroque margine fere aequaliter crenato-lobatum, articulis vulgo 4–5 oblique orbicularibus isthmo angustissimo sejunctis.—Mexico: Guasaremos, Río Mayo, Chihuahua, on oak slopes, September 26, 1935, *Howard Scott Gentry 1867* (type in Herb. Field Mus.). Sierra Charuco, Río Mayo, Sonora, in canyon, September 10, 1935, *Gentry 1720*.

Flowers lavender. The plant belongs to the small number of *Desmodium* species having unifoliolate leaves.

Dialium guianense (Aubl.) Steud.—This widely distributed tree of tropical America has been recorded as far north as Guatemala and British Honduras. Specimens are now at hand from Mexico: Fortuño, Coatzacoalcos River, Veracruz, 30–50 meters, in 1937, *L. Williams 8448, 8936, 8647.* Ubero, Oaxaca, 30–90 meters, *Williams 9355, 9285.* Local names Paqui or Guapaqui. A tall tree, 20–27 meters or more in height, usually with conspicuous buttresses.

Ormosia isthmensis Standl., sp. nov.—Arbor 20–27-metralis, trunco 60 cm. et ultra diam., ramulis crassiusculis primo ut omnibus partibus novellis dense minute sordido-tomentulosis vel serius glabratis, internodiis brevibus; folia majuscula petiolata, rhachi cum petiolo 7.5–18 cm. longa sparse minute tomentella vel glabrata, petiolulis crassis 5 mm. longis; foliola 7–9 subcoriacea obovato-oblonga vel elliptico-oblonga 8–12 cm. longa 4–6 cm. lata, apice obtusa vel rotundata et abrupte breviter cuspidato-acuminata, basi rotundata vel obtusa, supra glabra, nervis venisque manifestis interdum prominulis, subtus primo minute sericea vel tomentulosa, cito glabrata, nervis utroque latere ca. 11 angulo semirecto adscendentibus subcurvis marginem fere attingentibus; inflorescentia cymoso-paniculata ampla in statu fructifero tantum visa; legumen 2–2.5 cm. latum sessile sed basi constrictum usque 5 cm. longum, apice late rotundatum et apiculatum fere glabrum; semina 1 vel 2 subcompressa subquadrata fere 1 cm. longa laete coccinea.—Mexico: Uberto, Oaxaca, 30–90 meters, June, 1937, *Llewelyn Williams 9423* (type in Herb. Field Mus.). Fortuño, Veracruz, 30–50 meters, March, 1937, *Williams 8926.*

Vernacular name Colorín. Crown wide-spreading or round; trunk unbranched for half its height, with or without small buttresses; bark light brown or grayish, fairly smooth or with numerous small excrescences; fruit dark brown or almost black when ripe; growing in fairly dense, tall forest. The second collection cited exhibits some differences from the type, and it is possible that it really represents a distinct species. This is, apparently the first *Ormosia* to be recorded from Mexico, a tree once described by the writer under that name having been transferred later to the genus *Dussia.*

Rhynchosia rariflora Standl., sp. nov.—Herbacea scandens, caule gracillimo dense pilis brevibus patentibus viscido-piloso, internodiis plerumque foliis paullo brevioribus; stipulae persistentes lineari-subulatae 4 mm. longae dense breviter pilosae virides; folia

parva 1–2.5 cm. longe petiolata, petiolo gracili viscido-piloso, rhachi ad 1 cm. longa, petiolulis vix ultra 1 mm. longis; foliola 3 ovato-deltoidea, ovato-oblonga vel lanceolato-oblonga inaequalia 2–3 cm. longa 1–1.5 cm. lata, acuta ad longiacuminata, terminale basi rotundatum, lateralia basi valde obliqua et rotundata, membranacea, supra in sicco viridia albido-papillosa et sparse pilosula, subtus fere concoloria, sparse glanduloso-puncticulata, dense molliter pilosula; racemi axillares foliis breviores vulgo laxe 2–3-flori, pedunculo gracili elongato, pedicellis gracilibus ad 5 mm. longis viscido-pilosis; calyx extus viscido-pilosus ca. 7 mm. longus, lobis tubo basi rotundato campanulato longioribus, inferiore aliis multo longiore, omnibus lanceolato-attenuatis; corolla 1 cm. longa, vexillo extus dense viscido-pilosulo; legumen sessile 18 mm. longum 7 mm. latum oblongum dense adpresso-pilosulum atque sparse longe viscido-villosum, apice oblique obtusum et subito in stylum 8 mm. longum contractum; semina 2.—Mexico: Guasaremos, Río Mayo, Chihuahua, valley margin, September 28, 1936, *Howard Scott Gentry 2883* (type in Herb. Field Mus.).

"A small vine growing among grasses; flowers yellow."

VOCHYSIACEAE

Vochysia hondurensis Sprague, Kew Bull. 183. 1922.—Mexico: Ubero, Oaxaca, 30–90 meters, June, 1937, *L. Williams 9467*. Local name Corpus or Corpo. A tree up to 27 meters high, the crown narrow, spreading or almost flat, rather dense; trunk 80 cm. in diameter, unbranched for 13 meters, the bark grayish, scaly; growing in dense, tall forest in dry loam. Previously a single representative of the genus, *V. tabascana* Sprague of Tabasco, has been known from Mexico.

EUPHORBIACEAE

Tetrorchidium rotundatum Standl. Trop. Woods 16: 44. 1928.—Heretofore the species has been found in Honduras and Nicaragua, but specimens are now at hand from Mexico: Fortuño, Coatzacoalcos River, Veracruz, 30–50 meters, March, 1937, *L. Williams 8387*. A straggly tree 5–6 meters high, with a spreading crown; trunk slender, branching about a meter from the base; growing in fairly dense forest.

Plukenetia angustifolia Standl. Field Mus. Bot. 4: 314. 1929.—Mexico: Ubero, Oaxaca, 30–90 meters, in 1937, *L. Williams 9166, 9358, 9390*. A slender, woody vine, growing usually in thickets

along roadsides. Until now the species has been known only from Honduras, Guatemala, and British Honduras.

Phyllanthus Williamsii Standl., sp. nov.—Herba gracilis annua erecta glabra prope basin simplex, caule usque 60 cm. alto superne ramos paucos vel numerosos graciles erectos vel valde adscendentes emittente tereti viridi, ramis plerumque caule brevioribus; stipulae persistentes subulato-filiformes ca. 2 mm. longae; folia parva vix ad 1 mm. longe petiolata ovalia vel ovali-oblonga, interdum ovato-ovalia, 1–2 cm. longa 7–12 mm. lata apice late rotundata, interdum obscure subapiculata, basi late rotundata, tenuia, supra in sicco viridia, subtus paullo pallidiora, costa gracillima obscura, nervis lateralibus utroque latere 5–6 tenerrimis obscuris; flores monoeci axillares solitarii vel pauci et fasciculati, pedicellis filiformibus florum fertilium usque 5.5 mm. longis; sepala floris masculi vix ultra 1.5 mm. longa, floris feminei 5 in statu fructifero 3 mm. longa obovata viridia apice rotundata prominenter costata; capsula depresso-globosa sepalis solemniter brevior.—Mexico: Fortuño, Coatzacoalcos River, Veracruz, 30–50 meters, March, 1937, *Llewelyn Williams 8433* (type in Herb. Field Mus.), *8533*.

Local names Añilillo and Hierba de leche. Growing along paths or trails in forest. Evidently related to *P. lathyroides* HBK., which is similar in habit and general characters, but has much smaller and especially narrower leaves.

BOMBACACEAE

Ochroma concolor Rowlee, Journ. Wash. Acad. Sci. 9: 161. 1919.—Mexico: Ubero, Oaxaca, 30–90 meters, *L. Williams 9236*. Local name Corcho. A tree 12–15 meters high with wide-spreading crown; trunk 40 cm. in diameter, the bark smooth, pale grayish brown. The genus *Ochroma* has been reported previously from southern Mexico, but there has been doubt as to the species represented. The present material is satisfactorily referable to the species named above, but there is still much uncertainty as to which, if any, of the species named by Rowlee are really valid.

BEGONIACEAE

Begonia MacDanielsii Standl., sp. nov.—Herba ut videtur caulescens simplex ca. 60 cm. alta, caule crassiusculo superne subgeniculato subtereti plus minusve, ad nodos densius, pilis brevibus brunnescentibus vel ferrugineis villoso, internodiis elongatis; stipulae hyalinae ferrugineae vel pallidae ad 8 mm. longae triangulari-ovatae

obtusae ciliatae deciduae; folia majuscula longissime petiolata tenuiter membranacea, petiolo 10 cm. longo et ultra sparse vel subdense breviter villosulo; lamina ambitu fere rotundata 8–15 cm. longa et aequilata vel latior, apice longe anguste attenuato-acuminata, basi breviter vel profunde aperte cordata, breviter angulato-lobata, lobis acutis inaequalibus, margine arcte inaequaliter repando-dentata et ciliata, dentibus acutis mucronatis, supra in sicco viridis subdense sed non conspicue pilis valde inaequalibus crassiusculis villosula, subtus densius villosula et puberula, basi 7-nervia; cymae axillares paniculam angustam valde elongatum efformantes, 2–5 cm. longe pedunculatae laxe pauci- vel multiflorae, ramis dense breviter villosis, pedicellis floriferis brevibus fere glabris, fructiferis gracillimis usque 4 cm. longis; sepala exteriora floris masculi ovato-rotundata 8 mm. longa et fere aequilata apice late rotundata, basi subcordata glabra ut videtur alba vel pallide rosea; bracteae parvae subrotundatae ciliatae vix ultra 3 mm. longae; capsula majuscula ca. 1.5 cm. longa, parte seminifera oblonga 6–7 mm. lata, ala maxima ad 1 cm. lata apice suboblique truncata, basi subtruncata vel late rotundata, alis alteris multo angustioribus ad 6 mm. latis tenuibus reticulato-venosis.—Mexico: In moist woods, Pié de La Cuesta, 10 miles north of Acapulco, Guerrero, 360 meters, August 23, 1935, *L. H. MacDaniels 207* (type in Herb. Field Mus.).

This plant is one of a large collection made in central Mexico by Mr. MacDaniels, and forwarded to the writer for determination by Dr. L. H. Bailey.

ARALIACEAE

Didymopanax Morototoni (Aubl.) Dcne. & Planch.—One of the common trees of the Atlantic lowland forests of Central America, but not listed previously from Mexico. The following collections are at hand from the Isthmus of Tehuantepec: Ubero, Oaxaca, 30–90 meters, in 1937, *L. Williams 9416, 9243, 9161.* Vernacular names Roble blanco, Chancarro blanco, Pié de gallo, and Mano de danto. A tree of 15–30 meters, with narrow, spreading crown; trunk 25–30 cm. or more in diameter, the bark smooth, light gray or grayish brown, on the lower part of the trunk brown and medium scaly; common on dry slopes in forest, or often on cut-over land.

ASCLEPIADACEAE

Vincetoxicum adenocardium Standl., sp. nov.—Herbacea volubilis (?), caule crasso subtereti ubique dense puberulo et pilis longiusculis albidis patentibus plurilocularibus sat dense piloso,

internodiis 2–3 cm. longis; folia parva longipetiolata crasse herbacea, petiolo crassiusculo 1.5–2.5 cm. longo dense puberulo et albido-piloso; lamina late ovato-cordata 3–5 cm. longa 2.5–3.5 cm. lata subabrupte longe anguste acuminata, basi profunde (ca. 8 mm.) cordata, sinu angusto, lobis posticis rotundatis, supra in sicco viridis dense pilis albidis attenuatis pilosa, tactu mollis, subtus fere concolor, ubique dense albido-glanduloso-puberula, ad venas albido-villosa, basi 5–7-nervia, nervis venisque prominentibus conspicuis pallidis reticulatis; flores racemosi, racemis axillaribus solitariis petiolo paullo brevioribus dense pauci- vel multifloris, pedicellis hispidulis ad 3 mm. longis; sepala viridia lanceolata fere 2 mm. longa extus hispidula acuta; corolla ut videtur brunneo-purpurea extus sparse hispidula, tubo calyci aequilongo, lobis linearibus intus glabris ca. 8 mm. longis vix ultra 1 mm. latis obtusis suberectis, marginibus plus minusve recurvis.—Mexico: Presa de Chihuahua, State of Chihuahua, June 22, 1936, *Harde LeSueur 845* (type in Herb. Field Mus.).

Noteworthy for the dense, glandular covering of the lower leaf surface, also for the linear corolla lobes. The plant is probably scandent, but it is possible that it is rather prostrate.

Vincetoxicum belizense Lundell & Standl., sp. nov.—Herba scandens, caulibus gracilibus striatis adpresso-pilosis; petioli graciles striati 5–17 mm. longi puberuli; lamina ovata vel ovato-oblonga 4.5–7.5 cm. longa 2–4.5 cm. lata, apice acuto-acuminata, basi breviter cordata, subchartacea, supra griseo-viridis et pilis paucis brevibus adpressis secus nervos exceptis glabra, subtus pallidior pilis paucis brevibus secus costam exceptis glabra; pedunculi axillares 8–12 mm. longi puberuli, floribus paucis (ca. 8–12) subumbellatis, pedicellis gracilibus striatis puberulis 6–10 mm. longis; calyx ad basin 5-partitus, sepalis lineari-lanceolatis ca. 3 mm. longis 1 mm. latis apice subobtusis intus glabris, extus puberulis, sepalis cum appendicibus 5 parvis basalibus alternantibus; corolla rotata fere ad basin 5-loba 18–20 mm. diam., lobis anguste lanceolatis ca. 9 mm. longis 3 mm. latis apice acutiusculis, intus glabris, extus sparse puberulis; corona exterior glabra carnosa profunde 5-loba, lobis 4-dentatis intus irregulariter appendiculatis.—British Honduras: Corozal District, 1931–32, *Percy H. Gentle 299* (type in Herb. Univ. Michigan; photo. in Herb. Field Mus.).

Vernacular name, Dama de noche. Distinguished by the appressed pubescence of the stems, small, lanceolate sepals and corolla lobes, and the deeply 5-lobate, dentate outer corona.

Vincetoxicum Gentlei Lundell & Standl., sp. nov.—Herbacea scandens, caulibus ut petiolis pedunculisque pilis brevibus nigris basi tuberculato-dilatatis atque aliis longioribus rigidulis intermixtis dense brevihirsutis; petioli graciles striati 3–7 cm. longi; lamina late ovata vel ovato-suborbicularis 7.5–13 cm. longa 5.3–10 cm. lata, apice subito breviter acuto-acuminata, basi profunde cordata, sinu angusto, membranacea, supra obscure viridis sparse pubescens, subtus pallide lutescenti-viridis atque dense molliter fulvo-pubescens, ad nervos breviter hirsuta; pedunculi axillares 3–7.5 cm. longi minute striati; flores pauci (4 et ultra) subumbellati, pedicellis gracilibus striatis 1.5–2.5 cm. longis; calyx viridis 5-partitus, sepalis orbicularibus ca. 3.8 mm. longis 3-nerviis intus glabris, extus pilis brevibus nigris basi tuberculiformibus et aliis longis rigidulis intermixtis brevihirsutis, sepalis cum appendicibus 5 parvis basalibus alternantibus; corolla luteo-viridis rotata profunde 5-loba 15–16 mm. diam., lobis suborbicularibus ca. 5 mm. longis 6–7 mm. latis obscure irregulariter crenulatis, intus glabris, extus hirtellis atque pilis paucis nigris basi tuberculiformibus conspersis; corona glabra subintegra; folliculi lanceolati ca. 7 cm. longi 1.3–1.7 cm. diam., tuberculis 5–9 mm. longis conspersi, breviter hirsuti atque pilis rigidulis basi incrassatis induti.—British Honduras: In forest on a hill slope near Gracie Rock, Sibun River, January 31, 1936, *C. L. Lundell 1779* (flowers) and *1780* (fruit) (type in herb. Univ. Michigan; photo. in Herb. Field Mus.). Corozal District, San Andres, *Gentle 541;* a vine in high ridge.

Noteworthy for its small, green flowers, large, ovate-suborbicular leaves, and black, tuberculate pubescence. Only one flower in an umbel is open at a time. Because of the pubescence, the fruits have a black appearance.

Vincetoxicum Hatchii Standl., sp. nov.—Volubilis, caule crasso tereti viridi densiuscule pilis brevibus sordidis patentibus piloso; folia permagna longissime petiolata membranacea, petiolo gracili (in folio uno viso) 21 cm. longo dense breviter piloso; lamina fere orbicularis 21 cm. longa 18 cm. lata, apice rotundata et abrupte acuminata, acumine triangulari-attenuato 3 cm. longo, basi profunde (4 cm.) cordata, sinu angusto fere clauso, lobis posticis late rotundatis, supra in sicco viridis ubique pilis longiusculis mollibus patentibus pilosa, subtus fere concolor, densius pilis paullo brevioribus molliter pilosa, basi 7-nervia, costa utroque latere nervos laterales 3 emittente, nervis venisque prominentibus laxe reticulatis; calyx 1.5 cm. longus dense breviter patenti-pilosulus fere ad basin

5-lobus, lobis ellipticis 6–8 mm. latis obtusis viridibus prope basin paullo angustatis; corolla rotata 4 cm. lata extus subsparse minute puberula, ad medium 5-loba, lobis rotundato-ovatis ca. 1.5 cm. latis apice subretusis intus glabris solemniter reticulato-venosis; corona annularis 6 mm. diam. 5-loba, lobis rotundato-truncatis obscure crenato-lobulatis, gynostegio obscure pentagono.—Guatemala: Cerro Sobre, Finca Seamay, Senahú, Alta Verapaz, 900 meters, July 24, 1936, *W. R. Hatch & C. L. Wilson 107* (type in Herb. Field Mus.).

Noteworthy for the extremely large, almost orbicular leaves, and for the large flowers.

Vincetoxicum LeSueurii Standl., sp. nov.—E radice crassa perennis, caulibus numerosis ut videtur prostratis dense pilis longis albis patentibus vel subretrorsis pilosis, internodiis brevibus; folia parva numerosa breviter petiolata herbacea, petiolo crasso dense albo-piloso; lamina late ovata vel rotundato-ovata 8–11 mm. longa 5–9 mm. lata plus minusve inaequilateralis, apice obtusissima vel subrotundata, basi cordata, sinu aperto, supra viridis glabra, subtus densissime pilis longis albis setuloso-pilosa; umbellae axillares numerosae laxe multiflorae, pedunculo crasso 1.5–2.5 cm. longo dense patenti-piloso, pedicellis 4–7 mm. longis dense pilosis, floribus ut videtur interdum cernuis; calyx 4 mm. longus extus dense albo-pilosus, profunde 5-lobus, lobis oblongo-ovatis obtusis erectis; corolla ut videtur atropurpurea 7–8 mm. longa intus glabra, fere ad basin 5-loba, lobis erectis lanceolato-oblongis obtusis, extus apicem versus prope medium pilis perpaucis albis setiformibus conspersis, solemniter longitrorsum fusco-lineatis.—Mexico: Majalca, Chihuahua, June 24, 1936, *Harde LeSueur 844* (type in Herb. Field Mus.).

Closely related to **Vincetoxicum nummularium** (Dcne.) Standl., comb. nov. (*Chthamalia nummularia* Dcne. in DC. Prodr. 8: 605. 1844), which differs in having longer pedicels and a densely setulose-pilose corolla; also to **V. chihuahuense** (Gray) Standl., comb. nov. (*Gonolobus chihuahuensis* Gray, Proc. Amer. Acad. 21: 398. 1886), in which the leaves are densely pilose on the upper surface.

Vincetoxicum Pittieri Standl., sp. nov.—Scandens, caulibus teretibus gracilibus viridibus glabris, internodiis plerumque foliis longioribus; folia modica petiolata herbacea, petiolo gracili 2 cm. vel paullo ultra longo puberulo vel fere glabro; lamina oblongo-elliptica vel ovato-oblonga 5.5–8.5 cm. longa 2.5–4 cm. lata longiuscule sensim acuminata, basi rotundata et interdum subemarginata,

glabra vel subtus ad costam sparse puberula, supra in sicco fusco-viridis, costa nervisque prominulis, subtus concolor, costa gracili prominente, nervis lateralibus utroque latere ca. 5 angulo semirecto adscendentibus arcuatis, venis paucis inconspicuis laxissime reticulatis; umbellae axillares solitariae 2–3 cm. longe pedunculatae, pedicellis gracilibus 1.5–2 cm. longis sparse minute puberulis; calyx 3.5 mm. longus extus puberulus fere ad basin 5-lobus, lobis oblongis obtusis erectis; corolla ca. 14 mm. longa rotata extus sparse puberula, intus versus basin pilis longis laxissimis albidis pilosa, lobis tubo duplo longioribus late triangulari-ovatis, apice obtusis et interdum breviter emarginatis, conspicue longitrorsum lineatis; corona fere 5 mm. lata profunde 5-loba, lobis remotis obreniformibus basi abrupte contractis et substipitatis, apice retusis, gynostegio pentagono 2.5 mm. lato.—Panama: Forests along the Río Ladrillo and vicinity, above El Boquete, Chiriquí, 1,200–1,300 meters, March, 1911, *H. Pittier 3059* (type in Herb. Field Mus.).

Vincetoxicum quercetorum Standl., sp. nov.—Scandens, ut dicitur suffruticosa, caule gracili viridi tereti densissime viscido-puberulo et subdense pilis albidis patentibus rigidulis hirsuto, internodiis foliis longioribus; folia modica petiolata membranacea, petiolo gracili 1.5–3 cm. longo puberulo et hirsuto; lamina oblongo-triangulari-ovata 5–8 cm. longa 2–4 cm. lata longe anguste sensim attenuata, basi cordata, lobis posticis rotundatis, supra in sicco viridis sat dense breviter villosa, nervis venisque vix elevatis, subtus paullo pallidior, sat dense puberula, ad venas villosula, costa utroque latere nervos ca. 4 emittente, venis obscuris; umbellae axillares solitariae interdum racemiformes laxe pauciflorae, pedunculo 2–2.5 cm. longo gracili dense puberulo et sparse hirsuto, pedicellis usque 2 cm. longis dense viscido-puberulis et sparse hirsutis, bracteis viridibus linearibus vel lanceolatis conspicuis ad 8 mm. longis; calyx viridis ca. 8 mm. longus extus minute puberulus et hinc inde hirsutus adpressus fere ad basin 5-lobus, lobis ciliatis oblongo-ovatis acutis; corolla ut dicitur coeruleo-purpurea fere 2 cm. longa rotata extus sparse minute puberula vel fere glabra, intus omnino glabra, fere ad basin 5-loba, lobis oblongis vel anguste triangulari-oblongis apicem subobtusum versus plus minusve attenuatis solemniter reticulato-venosis; corona 5 mm. diam. fusca breviter 5-loba, lobis crassis suberectis, apice late obtuso subretuso incurvo, gynostegio pentagono ad 4.5 mm. lato.—Mexico: Sierra Charuco, Río Mayo, Sonora, on oak slope, July 22, 1936, *Howard Scott Gentry 2297* (type in Herb. Field Mus.).

"A scandent perennial; old wood erect, the new trailing. Flowers olive-green, bluish purple in the saucer."

Vincetoxicum tristiflorum Standl., sp. nov.—Frutex scandens, ramis vetustioribus lignosis pallidis rimosis, novellis viridibus teretibus dense glanduloso-puberulis et pilis albidis patentibus rigidis hirsutis, internodiis plerumque elongatis; folia modica longipetiolata membranacea, petiolo gracili 2.5–5 cm. long glanduloso-puberulo et sparse hirsuto; lamina ovato-cordata, interdum rotundato-ovata vel subtriangulari-ovata, 5.5–11 cm. longa 3–6 cm. lata sublonge acuminata, basi profunde (ca. 1 cm.) cordata, sinu aperto lato vel subangusto, lobis posticis rotundatis, supra in sicco viridis pilosa, nervis manifestis et subprominulis, subtus paullo pallidior viscido-puberula et ad nervos breviter villosula, basi 5-nervia, costa utroque latere nervos 2 laterales emittente, venis obscuris; umbellae axillares solitariae, interdum racemiformes, laxe pauci- vel multiflorae, pedunculo gracili vulgo 2–2.5 cm. longo viscido-puberulo et sparse hirsuto, pedicellis gracilibus plerumque 8–12 mm. longis glanduloso-puberulis et sparse hirsutis, bracteis viridibus linearibus vel fere subulatis usque 5 mm. longis; calyx viridis 4–5 mm. longus extus sparse hirtellus fere ad basin 5-lobus, lobis oblongo-lanceolatis ciliatis acutis vel acuminatis; corolla ut videtur campanulata in sicco atropurpurea 12 mm. longa extus sparse minute puberula vel fere glabra, intus glabra, fere ad basin 5-loba, lobis anguste lanceolato-oblongis ca. 3 mm. latis apicem acutiusculum versus longe sensim attenuatis; corona 2.5 mm. diam. annularis breviter 5-loba, gynostegio pentagono.—Mexico: Guasaremos, Río Mayo, Chihuahua, forest slope, a purple-flowered vine with Burseras, in woods, August 23, 1936, *Howard Scott Gentry 2415* (type in Herb. Field Mus.). San Bernardo, Río Mayo, Sonora, August 24, 1935, *Gentry 1626*. Río Bonito, Chihuahua, August, 1936, *Harde LeSueur 840*.

Gentry reports the Warahío name as "mahoy píwala," and states that the young and tender fruit is roasted and eaten by the native people.

LABIATAE

Agastache ionocalyx (Robinson) Standl., comb. nov. *Brittonastrum ionocalyx* Robinson, Proc. Amer. Acad. 43: 25. 1907.

Agastache Palmeri (Robinson) Standl., comb. nov. *Brittonastrum Palmeri* Robinson, Proc. Amer. Acad. 43: 25. 1907.

SOLANACEAE

Physalis caudella Standl., sp. nov.—Herba ramosa perennis, ramis crassiusculis tortuosis subdense pilis albidis crassiusculis laxis villosis, internodiis brevibus; folia modica longipetiolata herbacea, petiolo usque 1.5 cm. longo, altero latere propter basin laminae decurrentem interdum 7 mm. longiore, saepius fere ad basin alato-marginato villoso; lamina lanceolata vel oblongo-lanceolata 3.5–6.5 cm. longa 1.5–2 cm. lata longe attenuato-acuminata, basi insigniter inaequali acuta, in sicco laete viridis, supra sparse villosa vel glabrata, subtus paullo densius praesertim ad nervos albido-villosa, margine integro vel interdum remote breviter repando-dentato; flores axillares solitarii, pedicellis gracilibus recurvis usque 8 mm. longis albido-villosis; calyx in statu florifero 11 mm. longus dense pilis longis laxis albidis villosus profunde 5-lobus, lobis anguste lanceolatis tubo duplo longioribus longissime anguste attenuatis; corolla lutea, fauce brunneo-purpurea, extus ad nervos sparse longivillosa, late campanulata, fere 2.5 cm. longa; calyx fructifer late ovoideus usque 5 cm. longus basi depressus 3 cm. latus pallide viridis lucidus, solemniter reticulato-venosus, sparse breviter villosulus; bacca globosa ca. 1.5 cm. diam.—Mexico: Cajurichi, Río Mayo, Chihuahua, 2,160 meters, on pine-oak slope, September 13, 1936, *Howard Scott Gentry 2710* (type in Herb. Field Mus.).

Noteworthy for the very large fruiting calyces with extremely narrow and greatly elongate lobes.

Physalis eximia Standl., sp. nov.—Herba ramosa annua(?), ramis crassis ut videtur carnosis glanduloso-puberulis et sparsius pilis longiusculis patentibus laxis glanduloso-villosis, internodiis elongatis; folia majuscula longipetiolata herbacea, petiolo crassiusculo 1.5–5.5 cm. longo glanduloso-villoso; lamina rotundato-ovata vel rotundato-deltoideo-ovata 5.5–9 cm. longa 4–7.5 cm. lata acuta vel subobtusa, basi valde inaequali breviter vel profundius cordata, altero latere interdum 6 mm. breviore, lobis posticis rotundatis vel interdum acutiusculis, in toto margine grosse inaequaliter undulato-dentata vel saepe sublobata, dentibus vel lobis obtusis, supra subdense breviter villosula, subtus praesertim ad nervos pilis brevibus albidis villosula, nervis lateralibus utroque latere ca. 5; flores axillares solitarii cernui, pedicellis gracillimis usque 3.5 cm. longis dense glanduloso-villosis; calyx in statu florifero 1.5 cm. longus basi late rotundatus vel truncatus densiuscule viscido-villosus viridis campanulatus, lobis anguste triangularibus sensim filiformi-attenuatis; corolla campanulata ut videtur viridi-lutea et fauce immaculata 3.5

cm. longa extus glabra vel tantum ad nervos minute puberula.—Mexico: Majalca, Chihuahua, June 24, 1936, *Harde LeSueur 894* (type in Herb. Field Mus.).

RUBIACEAE

Bertiera guianensis Aubl. Pl. Guian. 180. 1775.—The species, a frequent shrub of the Central American tierra caliente, has been known to range as far north as British Honduras. The following collections attest the fact that its range extends to the Isthmus of Tehuantepec: Ubero, Oaxaca, Mexico, 30–90 meters, in 1937, *L. Williams 9372, 9177, 9404, 9312.* Local names Cafecillo and Crucecillo; a shrub 2 meters high or less, sometimes subscandent, the small flowers white. Frequent on slopes in thickets or forest.

Coussarea Duckei Standl. Field Mus. Bot. 8: 174. 1930.

Of this exceptionally well marked species it is now possible to report another collection, of a date earlier than that of the type: Brazil: Rio Tapajoz, a shrub of 2–3 meters, flowers white, December 7, 1915, *Ducke 15857* (herb. Mus. Paraensis).

Coussarea mexicana Standl., sp. nov.—Arbor 9–11-metralis, trunco usque 25 cm. diam., omnino glabra, ramulis crassiusculis pallide lenticellatis, internodiis brevibus vel interdum valde elongatis; stipulae persistentes et induratae late ovatae obtusae vix 3 mm. longae subpatentes; folia mediocria brevissime petiolata subcoriacea, petiolo crassiusculo 3–5 mm. longo; lamina oblongo-elliptica 8–15 cm. longa 3.5–6.5 cm. lata, apice obtusa et breviter abrupte caudato-acuminata, acumine obtuso usque 1 cm. longo, basi acuta vel acuminata vel interdum attenuata, supra lucida, nervis venisque prominulis, subtus fere concolor vix lucida, costa gracili prominente, nervis lateralibus utroque latere ca. 7 angulo lato divergentibus gracillimis prominulis arcuatis prope marginem arcuato-conjunctis, venulis vix prominulis laxe reticulatis, axillis nervorum brevissime barbatis et domatiatis; inflorescentia terminalis thyrsoideo-paniculata subdense multiflora fere 2 cm. longe pedunculata, ca. 4 cm. longa atque 5 cm. lata, ramis crassiusculis atque ad nodos valde incrassatis, floribus cymosis, cymis paucifloris congestis, pedicellis crassiusculis vix ad 2 mm. longis; hypanthium turbinatum fere 2 mm. longum; calyx late campanulatus 2.5 mm. longus remote undulato-dentatus; corolla alba 12 mm. longa, tubo crassiusculo superne subdilatato, lobis lanceolato-oblongis obtusis tubo paullo longioribus.—Mexico: Ubero, Oaxaca, 30–90 meters, June, 1937, *Llewelyn Williams 9442* (type in Herb. Field Mus.).

A tree with spreading crown; trunk straight, round, unbranched for about 3.5 meters; bark greenish; wood brown throughout, used for railroad ties, sometimes for house construction and fuel. This is, apparently, the first record of the genus *Coussarea* for Mexico.

Guettarda Duckei Standl., sp. nov.—Frutex, ramulis teretibus ferrugineis, interdum spinis crassis rectis patentibus ca. 1.5 cm. longis armatis, novellis strigillosis et sparse hirsutis, internodiis plus minusve elongatis; stipulae deciduae 5 mm. longae vel ultra ovatae extus dense strigosae; folia majuscula breviter petiolata firme membranacea, petiolo gracili 5–20 mm. longo adpresso-hirsuto; lamina elliptica vel ovato-elliptica 9–15 cm. longa 4.5–8 cm. lata acuta vel breviter acuminata, basi rotundata vel obtusa, interdum subemarginata, supra in sicco fusca lucida sparse pilis brevibus subpatentibus setuloso-pilosa, costa nervisque prominentibus, nervulis prominulis, subtus paullo pallidior, ad costam strigosa, aliter dense velutino-pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 12 gracillimis prominentibus angulo latiusculo adscendentibus arcuatis marginem fere attingentibus; inflorescentiae axillares multiflorae compactae cymosae ca. 2.5 cm. latae, pedunculo gracili ad 12.5 cm. longo strigilloso et subadpresse hirsuto, bracteis lineari-subulatis calyce brevioribus, floribus sessilibus vel breviter pedicellatis; hypanthium vix ultra 1.5 mm. longum latum; calyx tubulosus 2 mm. longus truncatus dense ochraceo-tomentellus; corolla extus pilis erectis ochraceis dense sericea, tubo 1 cm. longo superne 1.5 mm. lato, lobis rotundatis ca. 2 mm. longis patentibus intus glabris; fructus ovalis in sicco 2 cm. longus 1 cm. latus densissime adpresse tomentellus teres, putamine 4-loculari.—Brazil: Almeirim, campo baixo, December 14, 1902, *A. Ducke 3056* (type in Herb. Field Mus.). Itacoatiara, beira, varzea, Igarapé da boca do Lago de Serpa, July 4, 1913, *Ducke 12500* (herb. Mus. Paraensis). Here may belong also *Ducke 2181* from M. Calmen, Ceará.

Related to *G. boliviana* Standl., a species with much larger corollas.

Hoffmannia Lawrancei Standl., sp. nov.—Frutex 2–2.5 m. altus, trunco ad 3.5 cm. diam., ramis crassis fuscis teretibus, novellis glabris; stipulae non visae; folia inter maxima breviter petiolata herbacea, petiolo crasso ad 2.5 cm. longo glabro; lamina oblonga vel oblongo-elliptica ca. 27 cm. longa atque 9–12.5 cm. lata, apice obtusa vel rotundata et subito triangulari-acutata, apice ipso acuto, basi sensim vel subabrupte acutata et plus minusve decurrens,

glabra, supra in sicco fuscescens opaca, costa nervisque prominulis, subtus brunnescens, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 15 angulo lato adscendentibus obliquis arcuatis prope marginem arcuato-conjunctis; flores cymosi, cymis laxe pauciflоris petiolis subaequilongis graciliter pedunculatis ad nodos ramorum crassiorum fasciculatis, ramis rubris glabris, pedicellis gracillimis usque 1 cm. longis; hypanthium ca. 2 mm. longum oblongo-obovoideum teres glabrum, calyce 2.5 mm. lato obscure remote denticulato; corolla lutea in alabastro 7 mm. longa extus glabra apice acutiuscula, lobis linearibus tubo plus quam duplo longioribus.—Colombia: Region of E. Chapón, State of Boyacá, in thin forest at brook side, 1,110 meters, May 9, 1932, *A. E. Lawrance 28* (type in Herb. Field Mus.).

Hoffmannia macrosiphon Standl., sp. nov.—Frutex 2-metralis ut videtur ramosus, ramis gracilibus teretibus viridescentibus glabris, internodiis brevibus; stipulae parvae deciduae; folia inter minora petiolata membranacea opposita, petiolo 8–22 mm. longo glabro gracili; lamina anguste oblanceolato-oblonga 7–12.5 cm. longa 2.3–3.2 cm. lata, apicem obtusum versus longe anguste attenuata vel interdum abrupte acuminata, basin versus longe sensim attenuata, glabra, supra in sicco griseo-viridis opaca, nervis obsoletis, subtus multo pallidior, costa crassiuscula vix prominula, nervis lateralibus utroque latere ca. 8 angulo lato adscendentibus inconspicuis, venis obsoletis; flores cymosi, cymis axillaribus solitariis 2–3-floris graciliter ad 3 cm. longe pedunculatis, pedicellis gracillimis ca. 1 cm. longis; hypanthium anguste oblongum 4 mm. longum ca. 1.5 mm. latum glabrum, calyce 2.5 mm. lato breviter obtuse dentato erecto; corolla extus glabra, tubo 2 cm. longo basi fere 2 mm. lato, fauce subito dilatato et 5 mm. lato, lobis late rotundato-ovatis obtusis ca. 6 mm. longis subpatentibus intus glabris; antherae semiexsertae fere 4 mm. longae; stylus antheras aequans, ramis crassis 2 mm. longis.—Guatemala: In heavy forest, Volcán Zunil, Dept. Quezaltenango, 2,400 meters, August 4, 1934, *Alexander F. Skutch 937* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

"Corolla tube white suffused with red; lobes dull red on the margin, yellowish in the center. Berries red." The species is an isolated one, so much so, especially as regards the shape and size of the corolla, that its reference to *Hoffmannia* is somewhat questionable. There is, apparently, no other genus to which it might be referred, and with the material now available there seem to be no grounds for giving it separate generic rank.

Ixora faroensis Standl., sp. nov.—Frutex 1.5 m. altus ut videtur dense ramosus, ramis sat crassis rigidis teretibus, novellis in sicco stramineis plus minusve compressis glabris, internodiis brevibus; stipulae persistentes e basi lata subulatae rigidae glabrae; folia parva brevissime petiolata rigido-coriacea, petiolo crasso vix ad 3 mm. longo; lamina anguste lanceolato-oblonga, in sicco saepe complicata, 4–7 cm. longa 0.8–1.8 cm. lata sensim acuminata, basi acuta, glabra, supra lucidissima, costa gracili valde elevata, nervis venisque obsoletis, subtus fere concolor brunnescens lucida, costa prominente, nervis lateralibus utroque latere ca. 11 obscuris angulo fere recto abeuntibus, prope marginem arcuato-conjunctis, venis obsoletis, margine saepe recurvo; inflorescentia terminalis cymoso-corymbosa laxe multiflora, ca. 2 cm. longa et aequilata vel latior, pedunculata, bracteis parvis lanceolatis vel subulatis, ramis puberulis, pedicellis 2–4 mm. longis puberulis; hypanthium obovoideum 1 mm. longum puberulum, calyce aequilongo puberulo, lobis ovatis acutis suberectis; corolla rosea puberula, tubo 8 mm. longo gracili superne paullo dilatato, lobis patentibus ellipticis obtusis 3–3.5 mm. longis intus glabris; antherae semiexsertae.—Brazil: Campos a E. do Faro, August 27, 1907, *A. Ducke 8521* (type in herb. Mus. Paraensis; fragment in Herb. Field Mus.), *8522*.

A well marked species because of the rather small and very narrow leaves.

Ixora Martinsii Standl., sp. nov.—Rami subgraciles teretes in sicco fusco-olivacei striati glabri, internodiis brevibus vel elongatis; stipulae adpressae ca. 6 mm. longae e basi lata subulatae glabrae persistentes; folia mediocria breviter petiolata subcoriacea, petiolo crasso ad 1 cm. longo glabro; lamina lanceolato-oblonga vel ovato-oblonga 8.5–14.5 cm. longa 4–5 cm. lata breviter acuminata, interdum tantum subacuta, basi acuta vel subacuminata, glabra, supra in sicco brunneo-olivacea lucidissima, costa gracili prominente, nervis venisque prominentibus et solemniter conspicuis, subtus fere concolor opaca, costa prominente, nervis lateralibus utroque latere ca. 15 angulo lato fere recto abeuntibus irregularibus subarcuatis remote a margine arcuato-conjunctis, venulis prominulis arcte reticulatis; inflorescentia terminalis cymoso-corymbosa laxe multiflora basi trichotoma pedunculata ca. 8 cm. longa et aequilata, ramis glabris valde adscendentibus, bracteis lanceolatis vel subulatis parvis, infimis interdum foliaceis sed parvis, flore centrali cymulae sessili, lateralibus ad 2 mm. longe pedicellatis; hypanthium obconicum 1 mm. longum, calyce truncato vix ultra 0.5 mm. longo;

corolla extus glabra, tubo gracili 5–6 mm. longo superne vix dilatato, lobis patentibus oblongo-ovalibus apice obtusis vel rotundatis tubum fere aequantibus; antherae lineares breviter exsertae ca. 3 mm. longae; fructus globosus glaber 5 mm. diam.—Brazil: Monte Alegre, serra, September 7, 1908, *Oscar Martins 9828* (type in herb. Mus. Paraensis; fragment in Herb. Field Mus.), *9827*.

Morinda panamensis Seem. Bot. Voy. Herald 136. 1854.—Mexico: Ubero, Oaxaca, in low forest, 30–90 meters, May. 1937, *L. Williams 9387*. Local name Calabaza. A tree 15 meters high or more, the crown somewhat rounded or spreading, fairly dense; trunk fluted, 40–60 cm. in diameter, unbranched for 9 meters, the bark dark brown; wood deep yellow. The species is new for the Mexican flora.

Pagamea Duckei Standl., sp. nov.—Ramuli crassi teretes basibus longe persistentibus stipularum occultis, internodiis brevissimis; stipulae basi circumscissiles ca. 13–20 mm. longae ferrugineae longitrorsum striatae extus dense breviter ferrugineo-hirtellae apice laciniato-lobatae; folia majuscula petiolata subcoriacea, petiolo crasso ca. 1 cm. longo dense breviter ferrugineo-piloso; lamina anguste elliptico-oblonga 8.5–15 cm. longa 4–4.8 cm. lata subabrupte breviter acuminata, acumine angusto attenuato, basin versus paullo angustata et subabrupte longe decurrens, supra in sicco fusca sublucida sparse setoso-hirsuta, ad nervos dense ferrugineo-hirsuta, nervis solemniter impressis, subtus fere concolor ubique ad nervos densius pilis rigidulis ferrugineis pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 11 angulo angusto adscendentibus prominentibus versus apicem arcuatis marginem fere attingentibus, venis obscuris; inflorescentiae axillares et pseudoterminales capituliformes densissime multiflorae ca. 1 cm. longae et paullo latiores, pedunculo crasso complanato ca. 1 cm. longo dense ferrugineo-piloso; calyx parvus dense villosulus, lobis late ovatis obtusis; corolla extus dense breviter villosula, tubo fere 5 mm. longo superne paullo dilatato, lobis patentibus vel subrecurvis tubo paullo brevioribus obtusis intus densissime pilis longis albidis villosis.—Brazil: Tarumá-miry, campina cerrada, terra firme, December 22, 1912, *A. Ducke 12415* (type in herb. Mus. Paraensis; fragment in Herb. Field Mus.).

Most closely related to *P. plicata* Spruce, but differing in the dense, capitate inflorescence, in having the leaves acuminate and at the base long-decurrent, and also in the somewhat different pubescence of the leaves.

Pagamea guianensis Aubl., var. **typica** Standl., var. nov.—*P. guianensis* Aubl. Pl. Guan. 1: 113. 1775. Folia omnino glabra vel subtus tantum in axillis nervorum sparse barbata; corolla extus glabra; pedunculi glabri vel breviter puberuli.

Pagamea guianensis Aubl. var. **pilosa** Standl., var. nov.—Folia subtus sparse vel subdense, ad nervos longius densius, hirtella; pedunculi dense hirtelli vel pilosi; calyx vulgo hirtellus, interdum glabratus; corolla extus dense breviter hortella, rarius glabra.—Brazil: Amazonas, Humayta, on plateau between Rio Livramento and Rio Ipixuna, November, 1934, *B. A. Krukoff 7083* (type in Herb. Field Mus.). The following collections are in the herbarium of the Pará Museum: Campos east of Faro, August, 1907, *Ducke 8462*; a small shrub. Região do Alto Ariramba, campina pantanosa do jaramacarú, *Ducke 11287*. Região dos campos a E. de Faro, *Ducke 10657*, a large shrub. Alto Ariramba, porto da Cachoeira Terminus, matto do barranco d'um igarapé, December, 1910, *Ducke 11401*; a tree with brown flowers. Região do Alto Ariramba, campinarana, porto do jaramacarú, ilha da matta pantanosa, December, 1910, *Ducke 11338*.

The new variety described seems to differ from the typical form of *P. guianensis* chiefly if not wholly in pubescence, and there is considerable variation in the quality and amount of pubescence in the specimens cited. Most of the other species of the genus are either quite glabrous or abundantly pubescent, but in this instance I believe that the pubescence has no more than varietal significance.

Pagamea capitata Benth.—The species has been collected at various localities in British Guiana, and at least once in Surinam. It may be reported also from Venezuela: Río Cuquinán, December, 1909, *Ule 8767* (herb. Mus. Paraensis).

Pagamea coriacea Spruce—The following Brazilian collections may be reported for this rare species: Obidos, campina de areia ao sul da Serra do Valha-me Deus, July, 1912, *Ducke 12033*; Rio Madeira, Campina des Marmellos, March, 1902, *Ule 6101*; Rio Mapuera, campinarana northeast of Taboleirinho, December, 1907, *Ducke 9129*. Specimens all in herb. Mus. Paraensis. Described as a large shrub with black fruits.

Pagamea hirsuta Spruce—Known previously only from Spruce's original collection. The following collection is in the herbarium of the Pará Museum: Caquetá, Cerro de Cupaty, parte superior, Alto Rio Negro, November, 1912, *Ducke 12288*.

Pagamea thyrsiflora Spruce—This species, also, has been known only from the original collection, from San Carlos on the Rio Negro. The following collection in the Pará Museum is conspecific: Rio Tapajoz, Bella Vista, campina do Perdido, February, 1917, *Ducke 16786*.

Palicourea roraimae Standl., sp. nov.—Frutex 1–2-metralis omnino glaber, ramulis gracilibus subteretibus in sicco fuscis, internodiis brevibus vel elongatis; stipulae crassae suberectae persistentes, vagina ca. 2 mm. longa in lobos 2 breves vix ultra 1 mm. longos latos obtusos desinente; folia parva breviter petiolata coriacea, petiolo crasso ad 4 mm. longo; lamina lanceolato-oblonga 3.5–5.5 cm. longa 1–1.8 cm. lata breviter acuminata, basi acuta, supra in sicco fusca vix lucida, costa tenera manifesta, nervis venisque obsoletis, subtus pallidior brunnescens lucidissima, costa gracili valde elevata, nervis lateralibus utroque latere 8–9 angulo lato adscendentibus arcuatis marginem fere attingentibus, venulis prominulis laxe reticulatis, subtus ubique dense minute pallido-puncticulata; inflorescentia terminalis cymosa dense pauci- vel multiflora ca. 2.5 cm. longa et 1.5 cm. lata graciliter 3–5 cm. longe pedunculata, basi trichotoma, ramis basalibus ebracteatis, ramis omnibus brevibus erectis, bracteis conspicuis linearibus ad 12 mm. longis attenuatis, floribus sessilibus; hypanthium breve, calyce vix 1 mm. longo, dentibus ovatis; corolla aurantiaca extus glabra 1.5 cm. longa in alabastro apice rotundata, tubo superne crasso, lobis brevibus.—Brazil: Roraima, on slopes at 2,300 meters, December, 1909, *E. Ule 8765* (type in herb. Mus. Paraensis; fragment in Herb. Field Mus.).

The type collection was determined by Schumann as a new species of *Rudgea*, which has remained unpublished.

Psychotria chaponiana Standl., sp. nov.—Frutex 3-metralis, ramis gracilibus ochraceis rugulosis subteretibus dense minutissime puberulis, internodiis brevibus; stipulae persistentes extus densissime scaberulae in vaginam crassam 2.5–3 mm. longam connatae, vagina subtruncata in lobos 4 erectos triangulari-subulatos vix ultra 1 mm. longos desinente; folia inter minora petiolata firme membranacea, petiolo gracili 6–12 mm. longo scaberulo; lamina lanceolato-oblonga vel anguste elliptico-oblonga 7–11 cm. longa 2–3.5 cm. lata longe anguste attenuato-acuminata, basin versus longe anguste attenuata, supra in sicco fusco-olivacea glabra sublucida, nervis manifestis sed vix prominulis, subtus fere concolor, primo densiuscule puberula, serius costa nervisque exceptis fere glabra, costa gracili prominente, nervis lateralibus utroque latere

ca. 16 angulo latiusculo adscendentibus arcuatis juxta marginem arcuato-conjunctis; inflorescentia terminalis 2 cm. longe pedunculata erecta paniculata ca. 6 cm. longa atque aequilata laxe multiflora, floribus in cymulas trifloras dispositis arcte sessilibus, ramis gracilibus densissime minute puberulis omnibus basi bracteatis, bracteis patentibus lineari-filiformibus usque 4 mm. longis persistentibus; hypanthium ca. 0.5 mm. longum puberulum, calyce lato vix 1 mm. longo extus sparse minutissime puberulo remote obscure dentato; corolla alba 9 mm. longa extus dense minute puberula, tubo crassiusculo sursum paullo dilatato, lobis ovali-oblongis vel triangulari-oblongis tubo duplo brevioribus apice rotundatis vel obtusis, fauce non barbato, corolla in alabastro apice rotundata; antherae lineares 4 mm. longae subexsertae.—Colombia: Chapón region, State of Boyacá, in semi-open forest, 1,150 meters, May 7, 1932, *A. E. Lawrance 11* (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

Psychotria Lawrancei Standl., sp. nov.—Frutex 2–2.5 m. altus, ramis crassiusculis teretibus, novellis viridibus sparsissime minute puberulis vel glabris, internodiis abbreviatis; stipulae persistentes et incrassatae in vaginam ca. 3 mm. longam glabram connatae, vagina apice fere truncata sed in lobulos 4 brevissimos desinente; folia modica breviter petiolata membranacea, petiolo crassiusculo vulgo 6–8 mm. longo glabro; lamina oblongo-oblanceolata 10–18 cm. longa 3–6 cm. lata anguste acuminata, basin versus longe anguste attenuata et decurrens, supra in sicco fusco-viridis sublucida glabra, nervis manifestis sed vix prominulis, subrugulosa, subtus fere concolor glabra, costa prominente gracili, nervis lateralibus utroque latere ca. 11 angulo latiusculo adscendentibus arcuatis gracillimis prominulis juxta marginem arcuato-conjunctis; inflorescentia terminalis erecta cymoso-paniculata ca. 4 cm. longa atque 3 cm. lata, ramis primariis basi ebracteatis sparse minute puberulis, inferioribus basi incrassatis plus minusve reflexis, apicibus ramorum quoque incrassatis, floribus parvis sessilibus aggregatis; hypanthium cylindraceum 1 mm. longum glabrum, calyce fere aequilongo campanulato truncato vel remote obsolete denticulato; corolla ochroleuca extus glabra, tubo crasso fere campanulato 2 mm. longo ubique aequilato, lobis late ovatis apice late obtusis reflexis tubo multo brevioribus intus glabratis, fauce albo-barbato; antherae exsertae oblongae 0.8 mm. longae.—Colombia: Region of El Humbo, State of Boyacá, in high forest on steep banks, 1,050 meters, May 6, 1933, *A. E. Lawrance 788* (type in Herb. Field Mus.).

Psychotria limonensis Krause, var. **angustifolia** Standl., var. nov.—A forma typica speciei non differt nisi foliis multo angustioribus, lamina anguste oblongo-oblanceolata 19–26 cm. longa 4–5.5 cm. lata longe anguste acuminata, basin versus longe sensim attenuata.—Guatemala: Finca Moca, Dept. Suchitepéquez, in forest, 1,020 meters, January 7, 1935, *Alexander F. Skutch 2073* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

"A shrub 4.5 meters high; flowers white; berries red."

Psychotria Recordiana Standl., sp. nov.—Arbuscula 4-metralis ut videtur dense ramosa, ramis gracillimis teretibus ochraceis, novellis viridibus dense minutissime puberulis, internodiis brevibus; stipulae persistentes in vaginam subinflatam extus dense puberulam 3–4 mm. longam connatae, vagina in lobos 4 erectos approximatos lineari-attenuatos 4–5 mm. longos desinente; folia parva petiolata membranacea, petiolo gracili 5–8 mm. longo minute puberulo vel subglabro; lamina lanceolata vel oblongo-lanceolata 5.5–11.5 cm. longa 1.5–3 cm. lata, longissime angustissime attenuato-acuminata, basi acuta, supra in sicco laete viridis ad costam prominentem breviter pilosula, aliter glabra, nervis vix prominulis, subtus paullo pallidior sparse minutissime patenti-pilosula vel glabrata, costa gracillima prominente, nervis lateralibus utroque latere ca. 15, nervo altero teneriore parallelo inter paria inserto, angulo fere recto divergentibus arcuatis juxta marginem arcuato-conjunctis; inflorescentiae terminales paniculatae erectae laxe multiflorae graciliter 1.5–4.5 cm. longe pedunculatae 3–7 cm. longae et aequilatae basi trichotomae, ramis gracillimis densiuscule minute puberulis omnibus basi bracteatis, infimis patulis vel subreflexis, bracteis primariis lanceolato-subulatis vel lineari-subulatis usque 1 cm. longis, superioribus oblongis viridibus majusculis flores fere occultantibus, floribus sessilibus aggregatis interdum subcapitellatis; hypanthium minute puberulum; calyx 1.5 mm. longus ad medium dentatus, dentibus obtusis erectis extus puberulis; corolla 5–6 mm. longa, tubo cylindraceo extus glabro, lobis oblongis obtusis extus puberulis tubo duplo brevioribus; fructus juvenilis dense puberulus.—Ecuador: Western cordillera of Quito, valley of Río Salaya, 1,800 meters, October, *A. Rimbach 623* (type in Herb. Field Mus.).

"A small tree 4 meters high, in shade of forest. Flower 12 mm. long, 7 mm. wide; corolla white; calyx colorless; stamens 5; style 3 mm. long, the stigma 2-lobate. Wood whitish. Bark light brown, rather smooth." The species is named for Professor Samuel J. Record, from whom the collection containing this plant was received.

Psychotria Skutchii Standl., sp. nov.—Frutex gracilis 2.5 m. altus, ramis teretibus, novellis viridibus densissime pilis brevibus patentibus sordidis pilosulis, internodiis brevibus; stipulae persistentes in vaginam truncatam 1.5 mm. longam dense puberulam connatae, vagina in lobos 4 aequilongos triangulari-subulatos erectos remotos desinente; folia parva longiuscule petiolata membranacea, petiolo gracili 7–15 mm. longo densissime patenti-pilosulo; lamina anguste elliptico-oblonga vel oblanceolato-oblonga 5.5–9.5 cm. longa 2–3 cm. lata longiacuminata, basin acutam vel acuminatam versus sensim angustata, supra in sicco laete viridis ubique dense puberula et ad costam patenti-pilosula, nervis conspicuis prominulis, subtus paullo pallidior dense molliter patenti-pilosula, costa gracili prominente, nervis lateralibus utroque latere ca. 13 tenerrimis angulo lato adscendentibus arcuatis prominulis juxta marginem arcuato-conjunctis; inflorescentia terminalis erecta sessilis vel ad 3.5 cm. longe graciliter pedunculata cymoso-paniculata 2.5–4.5 cm. longa et aequilata, basi trichotoma, ramis patentibus vel subreflexis omnibus basi bracteatis, bracteis patentibus linearibus attenuatis ad 5 mm. longis puberulis, ramis densissime patenti-pilosulis, bracteis superioribus minutis filiformibus, floribus cymulosis sessilibus vel brevissime crasse pedicellatis; hypanthium ut calyx densissime pilosulum vix 1 mm. longum, calyce ad 1 mm. longo inaequaliter dentato, dentibus triangularibus acutiusculis; corolla alba in alabastro apice late rotundata breviter patenti-pilosula, tubo cylindraceo 6–7 mm. longo fauce parum dilatato non barbato, lobis triangulari-oblongis obtusis ut videtur patentibus intus glabris; antherae semiexsertae; stylus lobos corollae aequans.—Guatemala: Oak woods, San Juan Ixcoy, Dept. Huehuetenango, 2,400 meters, August 22, 1934, *Alexander F. Skutch 1074* (type in Herb. Field Mus.; duplicate in herb. Arnold Arb.).

Tocoyena hispidula Standl., sp. nov.—Ramuli crassiusculi subteretes ferruginei dense vel sparse hispiduli, internodiis brevibus striatis; stipulae persistentes triangulares 5–6 mm. longae acuminatae glabrae; folia mediocria brevissime petiolata crasse membranacea, petiolo crasso ad 6 mm. longo; lamina elliptica vel oblongo-elliptica 11–16 cm. longa 5.5–8 cm. lata ut videtur breviter acuminata, basi acuta vel abrupte acuta, utrinque sat dense hispidula, opaca, costa gracili subtus elevata, nervis lateralibus utroque latere ca. 10 angulo latiusculo adscendentibus arcuatis teneris; flores numerosi apice rami dense capitato-aggregati sessiles vel subsessiles glabri, hypanthio turbinato vix 5 mm. longo, calyce brevi 3 mm. lato

remote inconspicue acute dentato; corollae tubus gracillimus 8.5–9 cm. longus teres ca. 2 mm. crassus, alabastris ovoideis acutiusculis, lobis ovato-oblongis ca. 13 mm. longis acutis vel acutiusculis; antherae semiexsertae.—Brazil: Rio Marapy, serrotes, campos, May 15, 1903, *A. Ducke 3574* (type in herb. Mus. Paraensis; fragment in Herb. Field Mus.). Montealegre, Alto da Serra Itauajury, rochedos no campo, April 25, 1916, *Ducke 16078b.*

In Schumann's key to species of *Tocoyena* in *Flora Brasiliensis* this plant would run at once to *T. bullata* Mart., a species that differs in having conspicuously bullate leaves, and in most of its other characters.

COMPOSITAE

Dyssodia puberula (Rydb.) Standl., comb. nov. *Thymophylla puberula* Rydb. N. Amer. Fl. 34: 177. 1915.

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